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THE MEDICAL JOURNAL OF AUSTRALIA.

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SOME CAUSES OF KIDNEY PAIN AND THEIR TREATMENT (EXCLUSIVE OF STONE, TUBERCULOSIS AND INFECTION.)[1]

By **S. Harry Harris, M.D., Ch.M.,**
Honorary Urologist to the Lewisham Hospital.

Kidney pain is one of the commonest complaints with which the urologist is confronted. The pain may be localized in the loin or abdomen, or radiate widely. It is frequently quite a simple matter to say definitely that a patient is suffering from renal colic or renal pain. Quite otherwise, however, in many cases is it to locate the cause. The X-ray picture alone will suffice in a minority of the cases. Urinalysis frequently yields no clue. Only too often these cases are allowed to drag on, month after month, in the absence of immediate apparent urgency, until the kidney passes beyond the stage where conservatism offers any chance of repair. In the words of a recent writer:

"Detection of a secondary pyonephrosis or of a giant terminal hydronephrosis requires no particular diagnostic acumen, and certainly these conditions, when met, are diligently enough attacked. To the master urinary mechanic, however, something more than this is desirable. Prevention of these conditions is worth vastly more than their cure, and this accomplishment in the vast majority of cases is definitely and persistently associated with the recognition and early relief of ureter obstruction. Perhaps of even greater importance, from the viewpoint of the patient, is the possibility of obtaining relief from those years of suffering and ineffective intra-abdominal exploratory excursions which intervene between the time the true, but hidden, pathology begins and the time it reaches such vast proportions as to speak unequivocally for itself."

It is with this interim that we are immediately concerned. My object here is to emphasize most strongly the significance of chronic obstruction of the ureter as a thing of itself, to be treated with the respect its symptom-producing powers demand, to be deliberately sought in possible explanation of certain perplexing clinical pictures, and to be promptly remedied by means often quite simple, but quite effective.

With this object in view, the case records of 170 patients suffering with renal pain, taken alphabetically from my case books of the past four years, have been carefully gone over. Renal conditions incidental to pregnancy have been excluded, as they have been dealt with at length in previous communications.[2]

Of the 170 patients, 52 had renal or ureteral calculi and 18 had renal tuberculosis. This leaves 100 cases to be otherwise accounted for. In other words, of 170 unselected patients suffering with renal pain, only 52, that is, about 30%, had stones as the causal factor; 18, or about 10%, had renal tuberculosis; 100, or about 59%, had other causes for their renal pain. Of these 100 patients, 32 had gross, suppurative lesions, and are excluded from present consideration. This leaves 68 patients with renal pain, but without any gross infection, in whom the nature of the lesion was not immediately apparent.

So far as general physical signs and symptoms are concerned, these were more or less similar in all cases, and were not pathognomonic. There might be more or less constant, dull ache in the back or elsewhere, or recurrent colicky attacks of greater or lesser severity, of any or no radiation. Associated bladder disturbance might be conspicuous or absent. Gastro-intestinal disturbance may be an outstanding feature. The urinalysis was often negative. In the early cases the kidney was not palpably enlarged and in the intervals between attacks, as a rule, not markedly tender. Attacks might coincide with the onset of menstruation. Appendicitis, cholecystitis, salpingitis, gastric ulcer, intestinal obstruction, lumbago, sacro-iliac disease and numerous other maladies were often more or less accurately simulated. Previous futile abdominal operations had been performed in 15, *i.e.*, 22% of the 68 cases.

The cases group themselves broadly into two general classes: (1) those due to lesions primarily within the kidney or ureter—intrinsic causes of renal pain; (2) those due primarily to causes outside the kidney and ureter and causing obstruction of the ureter—extrinsic cause of renal pain.

In the first group are included strictures of the ureter and renal neoplasms. In the second group ureteral obstructions by aberrant blood vessels and fascial bands, intermittent obstructions of the ureter and partial strangulations from torsion of the vascular pedicle in cases of movable kidney, ureteral obstructions from tumours in the abdomen and pelvis, from inflammations of the seminal vesicles, from growths in the bladder and *cervix uteri*, and from certain inflammatory conditions of the broad ligaments and vermiform appendix.

It would be impossible in the limited time at my disposal to enter even briefly into details of all of these various cases. It must suffice, therefore, to deal generally with the more important classes as a whole and to describe in some detail those cases that illustrate some of the more important technical considerations.

Intrinsic Causes of Renal Pain.

(1) Stricture of the Ureter.

This may be primary or secondary, congenital or acquired. Congenital strictures, in my experience, are extremely rare, though there happened to be three in the present series of cases. Secondary strictures following the passage of ureteral calculi or their operative removal are by no means uncommon. Strictures associated with renal tuberculosis and other infections are very common, but are not considered here. It is frequently a matter of impossibility in any given case to trace the ætiology of the ureteral stricture.

Gonorrhœa and syphilis probably figure prominently as ætiological factors. Some authors ascribe importance to distant focal infections, *e.g.*, in the tonsils, teeth, intestinal tract, etc. Certainly many cases

[1] Read at a Meeting of the New South Wales Branch of the British Medical Association on August 30, 1918.

[2] *Australasian Medical Gazette*, XXXIII., 192, 1913, and XXXIV., 47, 1913; *The Medical Journal of Australia*, October 7, 1916.

clear up much more rapidly when such associated conditions receive adequate concurrent attention.

The cause of pain in all these cases is definitely associated with increased intra-pelvic pressure. This increase may be constant or intermittent, depending on the extent and character of the obstruction. The pain, as one would expect, may also be constant or intermittent. It may, as stated above, be mild or severe, of any location within the abdomen or lumbo-sacral regions. It may be fixed or of any radiation. It may more or less accurately imitate almost any abdominal organic lesion. Whatever its nature, the fact of its dependence on increased pressure within the renal pelvis permits of its accurate reproduction to any degree necessary for diagnostic purposes. A valuable test is thus afforded. It is known as the pain reproduction or over-distension test. It is performed by carefully injecting a coloured fluid through a ureteral catheter into the renal pelvis or ureter until the patient complains of discomfort or even pain. Intelligent patients will commonly at once announce either a return or an aggravation of the existing pain, if of urinary origin, or a variation in its site and character, if due to some extra-urinary cause. The pain subsides immediately following removal of the fluid. This test I have found of great diagnostic value in certain cases.

FIGURE I.
Cast of Normal Pelvis and Calices (Kelly and Burnam).

Increased pelvic pressure sooner or later leads to increased pelvic capacity from dilatation of the pelvis or ureter above the stricture. This dilatation should always be looked for. In the earliest cases, however, it may occasionally be absent, and its presence is not necessary for a correct diagnosis. It must always be borne in mind, therefore, that an early stricture of the ureter may exist and cause definite symptoms from raised intra-pelvic pressure, without any evidence of dilatation of the renal pelvis.

FIGURE II.
Cast from a Case of Stricture of the Lower End of the Ureter. Note the dilatation of the ureter and calices with relatively little dilatation of the pelvis. Cubic capacity, 12 c.cm., or rather more than 3 ill. (Modified from Kelly and Burnam.)

The stricture may be located anywhere from the uretero-pelvic junction to the uretero-vesical orifice, though the lowest 15 cm. of the ureter is the most common site. Where the stricture is low down in the ureter the ureter dilates first, and the renal dilatation, when present, is commonly at the expense of the calices, the pelvis being only secondarily involved (*vide* Figures I., II. and III.). When the stricture is close up to the kidney the renal pelvis itself is commonly the seat of the primary and maximum dilatation. In the former case the whole kidney is eventually converted into a sac (*vide* Figure IV.); in the latter the renal pelvis may become enormously dilated, the hollowed out kidney lying as a cap upon its outer surface (*vide* Figure V.).

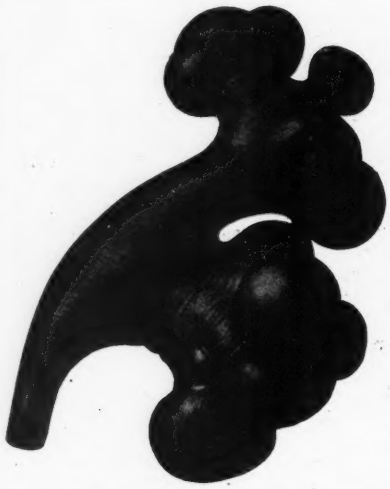

FIGURE III.
Cast from a Case of Stricture of the Lower End of the Ureter. Cubic capacity, 33 c.cm., or a little over 3 i.. (Modified from Kelly and Burnam.)

FIGURE IV.
Advanced Hydronephrosis, as found in cases of stricture of the lower end of the ureter. Diagrammatic (Kakels). Compare with Figures VII., VIII., XVI., XX. and XXIX.

In the early stages, before any palpable enlargement of the kidney has taken place, complete cystoscopic and X-ray (*i.e.*, pyelographic) examination will definitely establish the diagnosis (*vide* Figures XV. to XX.). In cases of stenosis of the vesical termination of the ureter a cystic projection into the bladder is sometimes seen. In other cases the ureteral catheter (with a wax bulb, if desired) may detect some ureteral obstruction. Often a sharp exclamation of pain will be elicited as the catheter tip or bulb impinges on the site of the stricture. Generally there will be found some increase in the pelvic capacity, a pain reproduction test which is positive, and perhaps some defect of the excretory capacity of the kidney, as shown by lowered specific gravity of the urine (as compared with the opposite kidney), subnormal excretion of urea, indigo-carmine or phthalein. Turbidity of the urine from the affected side will sometimes be found, due not to

pus, but to the presence of large masses of epithelial cells. The pyelogram, after injection of an opaque fluid, will reveal the site of obstruction and the extent of dilatation, if any.

When infection occurs, as it is bound to do sooner or later, the clinical picture naturally varies with its degree and with the extent of the existing dilatation. If attention is now directed solely to the infection, the obstructive element being overlooked, any method of treatment, however diligent, will naturally be ineffectual. The futility of treating such cases by vaccines alone should be sufficiently apparent. Yet such patients are constantly presenting themselves, either with or without radiographic reports, which are "negative for stone," and on examination *bacillus coli communis* and pus are discovered in the urine. These patients have often been treated without benefit, at times for months, by injections of vaccines and perhaps bladder irrigations, without any attempt having been made to establish any other diagnosis than that of *bacillus coli communis* infection.

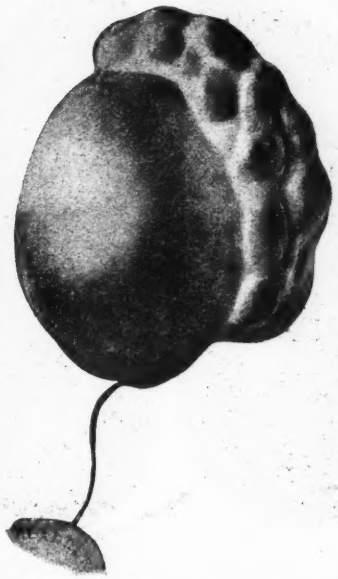

FIGURE V.
Advanced Hydronephrosis of Upper Ureter Type. Note enormous dilatation of the pelvis, the kidney lying as a cap on its outer surface (Kakels). Compare with Figures VI., IX., X., XIII., XXIV. and XXV.

Treatment.—Before infection takes place these cases are generally amenable to ureteral dilatation by means of the cystoscope and ureteral catheter (*vide* Figures XV. and XVI.). In other cases retrograde dilatation (the pelvis or ureter being opened above the stricture), uretero-vesical transplantation (*vide* Figure XVII.) or even plastic operations on the ureter, may be required. Failing these, resort must be had to nephrectomy (*vide* Figures VI., VII., VIII., XVIII., XIX., XX.). In the case of cystic prolapse of the lower end of the ureter, the ureteral orifice may be slit up through the cystoscope with the high frequency current or the cystoscopic operating scissors. When infection has supervened, ureteral dilatation and medication of the renal pelvis, often with the aid of a retained catheter, and perhaps autogenous vaccination and adequate oral therapy will sometimes bring complete relief. Too often, however, such cases have passed beyond the stage where conservatism offers any hope of cure, and nephrectomy remains as the sole resort.

FIGURE VI.
Hydronephrosis with Infection from Stenosis of the Ureter and Uretero-pelvic Junction. Operation specimen (about two-thirds natural size). Duration of symptoms, twelve years.

(2) Renal Tumour.

Renal tumour, when large, requires no great diagnostic acumen. When smaller or growing upwards from the upper pole of the kidney, especially in a fat individual, the diagnosis may be very difficult. Pyelography, by showing characteristic deformities in the outlines of the calices and pelvis, will frequently establish an otherwise doubtful diagnosis. This forms a most important and illuminating chapter in the diagnosis of renal conditions. Time, however, precludes its further consideration here.

Extrinsic Causes of Renal Pain.

(1) Obstruction of Ureter and Uretero-Pelvic Junction by Aberrant Vessels, Fascial Bands, etc.

This condition is one of considerable importance, and vies in frequency with ureteral stricture as a cause of often unrecognized renal pain. Its symptomatology is practically identical with that of ureteral stricture. Differentiation of the two conditions may be made by pyelography in nearly all cases (*vide* Figures IX. to XIII. and XXIV.).

This condition may be, and quite often is, associated with movable kidney, and will be further considered in this connexion.

(2) Movable Kidney.

Though this is a very common finding in a general abdominal examination, it has no surgical significance in the vast majority of cases.

Examination of a large number of these cases proves conclusively, to my mind, that true renal pain is rarely present in this condition without evidence of dilatation of the renal pelvis in the affected, as compared with the opposite, side. During the migration of a mobile kidney, partial strangulation may

occur through torsion of the pedicle and be the cause of violent pain and sometimes hæmaturia, with or without dilatation of the renal pelvis. The pain reproduction test (*vide supra*) in such cases is, however, positive. When the upper part of the ureter is fixed by inflammatory adhesions (*vide* Figure XXII.), or when anomalous vessels are present (*vide* Figure XXI.), a very slight grade of mobility is apt to lead to kinking of the ureter, with resultant retention and dilatation. This produces an intermittent type of hydronephrosis, often going on for years before gross hydronephrosis develops. When, however, such a kidney becomes fixed in its malposition, as not infrequently happens, the ureteral distortion becomes permanent (*vide* Figure XXV.), unless relieved by operation, and the progress of the hydronephrotic process is limited only by the degree of collateral circulation and extent of permeability of the ureteral lumen.

FIGURE VII.

Operation Specimen. Note the dilated uretero-pelvic orifice and calices; flattening of the renal papillæ and marked thickening (*i.e.*, hypertrophy) of the renal pelvis. From a case of dense stricture of the lower part of the ureter, resisting dilatation. For ureterogram see Figure XVIII. Duration of symptoms, 6½ years.

Kinking of the ureter and strangulation of the vascular pedicle may lead also to various interstitial or parenchymatous changes in the kidney, due to the chronic passive congestion. Such kidneys are commonly large and flabby and more or less adherent, owing to inflammatory reaction. Occasionally they are smaller than normal. A varicose condition of the vessels running along the upper part of the ureter into the kidney is a not uncommon finding in these cases. I have seen no mention of this in the literature, and am unaware of its significance, but think it wise to tie and divide them when they are found, as in a varicocele operation. It should be noted that maximum degrees of renal mobility are frequently unassociated with pain, and are of no necessary pathological significance. When both kidneys are victims of the hydronephrotic process, as not infrequently happens, it is generally best to fix both at one sitting, the patient lying prone on the table with a sandbag under the abdomen.

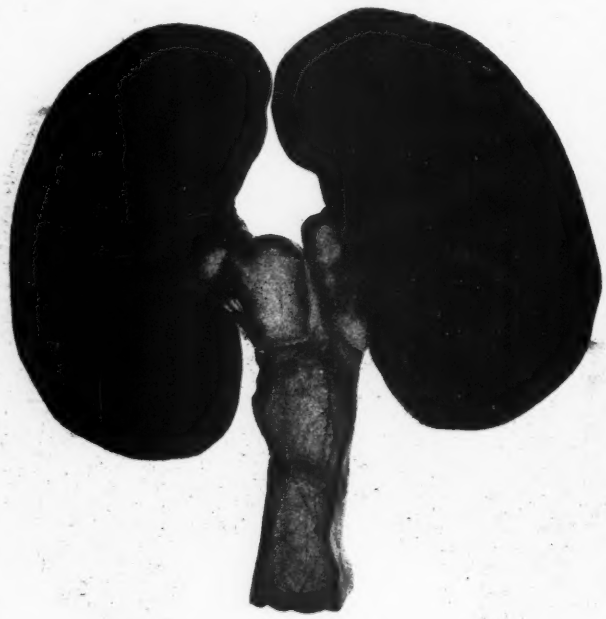

FIGURE VIII.

Operation Specimen. The patient had an impassable stricture of the lower part of the ureter, with infection. Note the dilated ureter, the dilatation and clubbing of the calices and the hollowing out of the renal papillæ (two-thirds natural size). For ureterogram and pyelogram see Figures XIX. and XX. Duration of symptoms, seven years.

As stated above, when operating for these conditions, it is essential to look for other causes of ureteral obstruction than mere mobility of the kidney, as quite frequently the actual obstruction is due to uretero-pelvic or ureteroureteral adhesions, anomalous blood vessels and the like. The neglect to recognize and rectify these conditions is, apart from unsuitable selection of cases, in my opinion, the commonest cause of failure after nephropexy.

Associated lesions will not uncommonly require attention at the same time, in order to obtain the best results, especially noteworthy, perhaps, being appendicitis, cholelithiasis and retroversion and prolapse of the uterus. When surgical interference is necessary, the gall-bladder can generally be drained and the appendix removed through the ordinary nephropexy incision (*vide* Figures XIII. and XXVI.). A surgeon of reasonable dexterity will have little difficulty, as a rule, in completing all necessary surgical steps at one sitting.

Splanchnoptosis is sometimes associated with renal crises due to *ren mobile*, and will require appropriate remedial measures after nephopexy, *viz.*, abdominal support, massage, electricity, etc., if the best results are to be obtained. There is, in fact, no condition with which I am acquainted that will better repay careful operative selection, careful pre-operative general abdominal examination and careful post-operative treat-

ment, when indicated. It should not be understood that I am even remotely suggesting systematic surgical attack in cases of movable kidney. Nevertheless, indiscriminate contempt for renal mobility is a serious error. In a certain minority of the cases, as stated above, the condition is definitely pathological, and when these are investigated in accordance with the principles above enumerated, operation is not only permissible, but essential to the patient's future well-being.

For my own guidance in these cases I have made it a general rule not to operate unless one or more of the following conditions obtain: (1) Dilatation of the renal pelvis, as measured by the ureteral catheter, and in doubtful cases demonstrated by pyelography; (2) a "pain reproduction" test which is positive; (3)

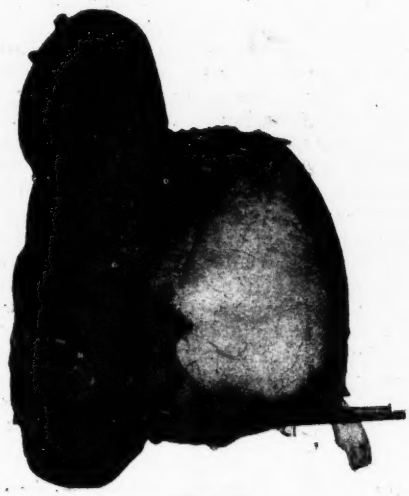

FIGURE IX.

Hydronephrosis; Aberrant Artery and Vein; Obstruction of the Uretero-Pelvic Junction. Operation specimen (two-thirds natural size). Duration of symptoms, fourteen years.

FIGURE X.

Internal View of Other Half of Same Kidney as Figure IX.

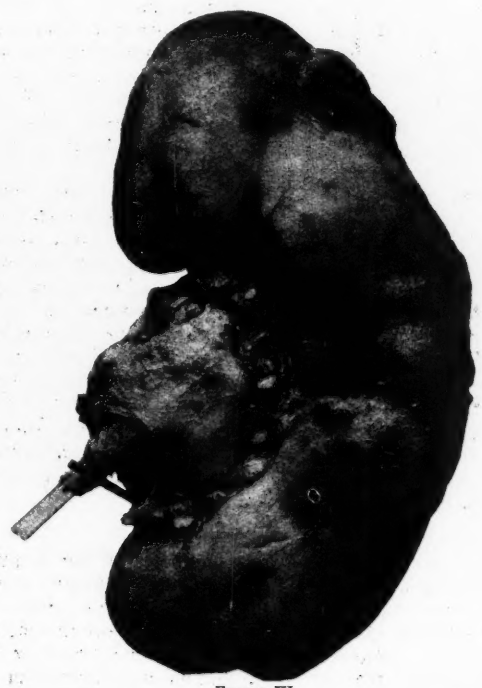

FIGURE XI.

FIGURE XII.

FIGURES XI. AND XII.

Hydronephrosis, Due to Obstruction of the Uretero-Pelvic Junction by Aberrant Vessels. Atypical type of dilatation. Operation specimen (half natural size). Patient sixteen years of age. Duration of symptoms, eight years.

deficient excretory capacity of the kidney in question for indigo-carmine (or phthalein) or urea; (4) a kidney that is painful and tender, either more or less constantly or during or immediately after an attack of pain.

The operative technique employed may be briefly described as follows: Complete delivery of the kidney through a lumbar incision; exposure of the upper ureter and uretero-pelvic junction; division of any anomalous vessels or adventitious fibrous bands, causing kinking of the ureter or uretero-pelvic junction; baring of the posterior surface of the kidney down to its fibrous capsule; three superficial triangular sutures of No. 5 plain catgut, one in the upper, one in the lower pole and one in the centre of the bared

FIGURE XIII.

Hydronephrosis Due to Obstruction at the Uretero-Pelvic Junction by an Aberrant Artery and Vein. Operation specimen (about two-thirds natural size). The angulation at the uretero-pelvic junction is well shown. Same case as Figure XXVI. Duration of symptoms, nearly twenty years.

surface; removal of fat from the surface of the *quadratus lumborum* muscle; bared surface of the kidney painted with tincture of iodine; oblique fixation of the kidney to the anterior surface of the *quadratus* muscle, the uppermost suture passing above the twelfth, or, if short, the eleventh, rib, the other two through the *quadratus lumborum* muscle; capsular occlusion, *i.e.*, suture of the anterior to the posterior layer of the perirenal fascia below the kidney, thus forming a sling for the lower pole of the kidney to rest upon; suture of the wound in layers without drainage. When any intra-peritoneal excursion is to be performed, the peritoneum is opened outside the ascending (or descending) colon and the necessary steps completed prior to the insertion of the kidney sutures.

(3) Ureteral Obstruction from Tumours in the Abdomen and Pelvis (e.g., Uterine Fibroids, Cancer of the Cervix Uteri, etc.).

These are by no means uncommon causes of renal pain. In such cases, provided the renal function is sufficiently good to permit of operation, attention should in the first instance be directed to the tumour. Removal of this may also remove the ureteral obstruction. Otherwise, this will later require its appropriate treatment, which will be the same as that described above under ureteral stricture.

In some cases of cancer of the cervix the ureter is involved in the growth. Such cases are generally inoperable, but may occasionally be treated by resection of the involved segment and transplantation of the proximal end into the bladder during the course of the radical operation for removal of the growth, or, if necessary, by knotting the proximal portion of the ureter after ligature of its extremity.

Renal pain following operation for the above-mentioned conditions may be due to stricture of the ureter or total occlusion by ligature. The latter, if unrecognized, may go on to hydronephrosis or pyonephrosis, or may proceed to symptomless renal atrophy. In such cases the local condition will determine the necessary treatment. These complications are, I think, much more frequent than is generally believed, the urinary factor in the case being quite commonly overlooked.

(4) Certain Bladder Lesions, e.g., Benign and Malignant Growths, Diverticula, etc.

Diverticula of the bladder are liable to cause renal pain by compression of the lower end of the ureter, with resultant hydronephrosis. Treatment is by excision of the diverticulum. Benign papillomata sometimes present themselves with albuminuria, renal pain and intermittent hæmaturia, thus suggesting a renal lesion. I have seen several such cases, in some of which there was no apparent involvement of the ureter. In all, the symptoms disappeared following destruction of the tumours by high frequency cauterization through the cystoscope.

Quite otherwise is it, however, with bald, infiltrating, malignant growths of the bladder, which quite often involve the ureteral orifices and cause severe renal pain. Here extensive resections, with ureteral transplantation, or total cystectomy, alone offers hope of cure. Quite recently there was referred to me a patient suffering from right renal colic, demanding the free and frequent use of morphine. X-ray examination had on two separate occasions proved negative, and exploratory operation on the right kidney had been advised. Cystoscopic examination showed that the pain was due to a most extensive malignant growth of the bladder, involving the right ureteral meatus and trigone.

(5) Seminal Vesiculitis.

Seminal vesiculitis or inflammation of the seminal vesicles is a troublesome and often overlooked cause of renal pain. If one bears in mind the proximity of the vesical end of the ureter to the seminal vesicles, it will be a cause for wonder that the ureter is not more often involved by inflammatory conditions of the vesicles than is actually the case. There may, too, be true vesicular colic, indistinguishable from

renal colic. A patient was referred to me some months ago with a diagnosis of recurrent attacks of renal colic, which had entirely incapacitated him from work, and which had been spread over six years. He brought with him an X-ray photograph of his pelvic area and a covering letter from the radiographer, stating that there were numerous shadows in the region of the lower end of the ureters, one or more of which were probably calculi, while the rest were phleboliths (*vide* Figure XXVII.). Pyelography revealed a normal outline of the renal pelvis, the shadows in the pelvic area (phleboliths) being seen to lie outside the line of the ureter (*vide* Figure XXVIII.). Rectal palpation discovered two large "pus tubes," though there was no history of antecedent gonorrhœa. *Streptococci* and *staphylococci albi* were the infecting organisms. After a prolonged course of rectal massage this man was eventually cured by a bilateral vasotomy and injection of the vesicles with a silver solution. He has since been accepted for active service abroad. Numerous similar cases could be quoted.

(6) Inflammatory Conditions of the Broad Ligaments and of the Appendix.

These sometimes involve the ureter by direct extension of the inflammatory process. Several years ago I recorded a case of pyonephrosis due to ureteral obstruction from an adherent inflamed appendix.[1] Retrocaecal appendices and acute inflammations of the broad ligaments would seem particularly liable to produce ureteral obstruction by external compression. So far, however, as my experience is concerned, neither of these conditions is nearly as common as might reasonably be supposed. The treatment is to remove first the cause and later, if necessary, the resulting ureteral stricture.

(7) Obstruction of the Urethra by Stricture, Prostatic Hypertrophy, Median Bar Formation.

Occasionally in such cases the outstanding feature from the patient's viewpoint is a more or less constant, dull or sometimes severe pain in one or other kidney region. This is due to the progressive dilatation of the kidney and ureter resulting from the increased back pressure. It usually disappears after removal of the urethral obstruction. I have seen quite a number of cases where a congenitally narrow external urinary meatus was the exciting cause of very troublesome kidney pain, which cleared up entirely after meatotomy. The same applies also to cases of median bar formation and, to a lesser extent, to general prostatic hypertrophy. In the former condition, which is particularly liable to occur in men between 30 and 50 years of age, brilliant results may often be obtained by means of the prostatic punch of Young used through the urethra. Success, of course, is absolutely dependent on accuracy of diagnosis.

FIGURE XIV.
Autopsy Specimen. Enormous hypertrophy and dilatation of the bladder from a case of congenital stenosis of the external urinary meatus. Note the orifices of two diverticula and advanced trabeculation.

In this regard two particularly instructive cases may be quoted in some detail. The first is that of a man, *æt.* 65, who was admitted to hospital in a moribund condition, with a history of martyrdom to lumbar pains for a number of years, for which he had never consulted a doctor, though he had had frequent recourse to various vaunted quack remedies. He died of uræmia within twelve hours of admission. At the post-mortem examination an enormously hypertrophied and dilated bladder and bilateral hydronephrosis were found (*vide* Figure XIV.). The prostate and vesical orifice were normal. The cause of the obstruction was a congenitally narrow external urinary meatus, through which a fine probe was inserted after some manipulation.

The second case illustrates the difficulties of diagnosis sometimes encountered in these cases. It is that of a man, *æt.* 52, suffering with recurrent attacks of left renal pain and hæmaturia, extending over the past four years. He had been examined by means of X-rays elsewhere, and numerous

[1] *The Medical Journal of Australia*, November 21, 1914, p. 494.

shadows had been found in the region of the bony pelvis, some of which had been diagnosed as ureteral calculi. Their operative removal had been suggested. Cystoscopic examination found a well-marked median bar the size of a small cherry and advanced trabeculation of the bladder. A catheter passed to the left kidney without obstruction. The pelvic capacity of the left side was 60 c.cm. Pyelography showed a well-marked hydronephrosis of the lower ureter type (*vide* Figure XXIX.). The ureterogram showed the shadows well outside the line of the left ureter (*vide* Figure XXX.). This patient had previously made no complaint of interference with the act of micturition, and rectal examination found no prostatic hypertrophy. Enquiry, however, elicited the fact that, though the stream was generally fairly full, sometimes micturition was interrupted suddenly in the middle of the act, and would start again after a few seconds. The diagnosis was made of urinary obstruction from median bar formation, hypertrophy of the bladder and hydronephrosis due to the increased intravesical pressure. The bar was removed by Young's punch through the urethra, with complete relief of the patient's symptoms.

Summary.

(1) Renal pain is due to the presence of calculi probably in less than one-third of all cases—in 52 of 170 (*i.e.*, 30%) examined.

(2) Exclusive of tuberculosis, stone and gross renal infections, some form of ureteral obstruction is the cause of renal pain in the vast majority of cases.

(3) The diagnosis can and should be made in the early stages, when correct treatment results in a practical *restitutio ad integrum*.

(4) Stricture of the ureter is a common cause of renal pain. For its diagnosis the cystoscope and ureter catheter may suffice. Often, however, pyelography will be necessary to establish the diagnosis.

(5) Movable kidneys should not be subjected to operation unless their causal connexion with the existing pain can be unequivocally established. When such is the case, operation is urgently demanded.

(6) The operation of nephropexy demands not only adequate fixation of the kidney, but also careful exploration of the uretero-pelvic junction and upper ureter for possible anomalous blood vessels, adventitious bands, etc., causing obstruction of the ureter and requiring division.

AN IMPROVEMENT IN THE TECHNIQUE OF PERINEAL CAPSULO-PROSTATECTOMY.

By **L. M. McKillop, M.S., M.B.,**
Honorary Assistant Surgeon, Mater Misericordiæ Hospital, Brisbane.

Though removal of the prostate gland is now usually effected by the suprapubic route, in accordance with the teaching of P. J. Freyer, still there are certain circumstances which make it preferable to attack the gland from the perineum, and when it becomes necessary to extirpate the gland, surrounded by its false capsule (derived from the pelvic fascia), as is absolutely necessary when there is evidence that the enlargement is malignant and yet operable, the procedure which I have employed in three cases, and which I shall presently describe, will be found to render the operation safer and more rapid of accomplishment. It is often very difficult to say definitely whether a prostatic enlargement is or is not malignant, but one is assisted by bearing three facts in mind in making an examination:—

(*i.*) That more enlargements of the prostate are malignant than was thought to be the case a few years ago. Every prostate gland removed by operation should be examined microscopically.

(*ii.*) That the more marked the enlargement below the level of the seminal vesicles, as compared with the extent of enlargement above their level, the greater the probability that the case is cancer.

(*iii.*) That the presence of patches of stony hardness more marked on one side than on the other is very strong presumptive evidence of cancer.

In the later stages the gland becomes fixed by involvement peripherally of the false capsule, and when the fixation is very marked the case is inoperable.

Operation.

The patient is anæsthetized in the horizontal position, the meatus cleansed and catheter passed and the bladder distended with about 180 to 240 c.cm. (6 to 8 ounces) of boracic lotion. The catheter is clipped. A vertical incision is now made in the mid-line from the *symphysis pubis* upwards for about 5, 6 or 7 cm. (depending on the obesity of the patient). This is deepened through the *linea alba*, the peritoneal reflection is identified, stripped carefully upward with a dry swab and the prevesical space of Retzius cleared until the muscle wall of the distended bladder is seen. A gauze sponge in keeping with the size of this space is now tightly packed into position, so as to push the bladder well down toward the perineum. The edges of the skin and fascia are caught up and approximated by a couple of silkworm gut sutures tied tightly over the sponge. This wound is now temporarily abandoned after protecting it with a sterile pad and the patient is then placed in the lithotomy position. The usual curved transverse incision is next made across the perineum and deepened until the perineal muscles are met with. The plane of cleavage between the rectum and the bulb is sought for and opened up. It will now be found that the prostate gland is lying low in a most accessible position.

The dissection is further deepened until the false capsule is exposed; it must be continued externally to that structure. Counter pressure is now made over the hypogastric swab until the prostate is pushed down almost flush with the perineum, when the subsequent steps are carried out under the guidance of the eye. The bleeding, which in these cases is usually a source of much danger, can be controlled with the greatest ease. The pubo-prostatic and the lateral true ligaments of the bladder are cut through, and with a little care the finger is hooked above the pelvic fascial capsule and the gland separated from the base of the bladder external to the internal sphincter.

When further separation is impossible the bladder wall is cut through in a circular manner. The *vasa deferentia* and the membranous urethra, with its con-

tained catheter, are then completely divided and the prostatic capsule and its gland removed *in toto*. A fresh, large-sized catheter is now passed down the urethra, to replace the divided one. The new catheter is guided into the bladder. All bleeding points are very carefully caught and ligated, and the redundant portion of the bladder wound closed with catgut, care being taken to avoid catching up the bladder mucosa. A gauze drain in a split tube is now introduced down to the base of the bladder. Iodoform gauze is packed firmly about this, and the lateral portion of the transverse perineal wound united by silkworm gut sutures. The stitches are now cut in the abdominal wound, the gauze sponge removed, a small drain inserted into the prevesical space, if necessary, and the remainder of the wound closed in the usual way. If necessary, an intravenous injection of saline solution is now given and the patient returned to bed and given the necessary symptomatic treatment. Care is taken that hexamine and sodium benzoate are exhibited for some days after the operation, as well as a few days before it.

The gauze packing in the perineal wound is taken out and replaced in 48 hours, and the tube is removed on the fourth day. The indwelling catheter is changed daily after the first week, and sounds are subsequently passed. As one would expect, more or less incontinence remains after this operation, but seeing that it is done for a desperate condition, one must not be over-particular. In any case, it is no more inconvenience than the terminal supra-pubic cystotomy usually demanded in these cases of malignant disease of the prostate. The extra trouble of having to make an abdominal wall incision is, in my opinion, more than compensated by the splendid exposure obtained and the ease with which the hæmorrhage can be controlled.

At my suggestion Dr. Thelander, of this city, recently employed this method of removing a prostate affected with malignant disease, and he was very agreeably surprised at the ease with which he was able to carry out the removal of the gland and its capsule.

As far as I am aware, this procedure in perineal prostatectomy has not previously been described.

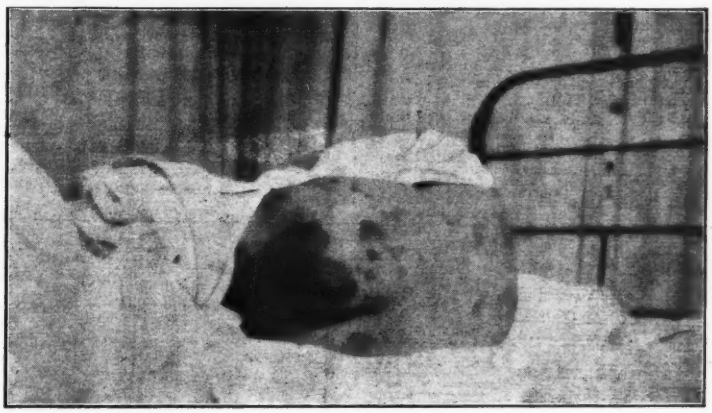

FIGURE I.
Angio-Neurotic Œdema; Purpuric Extravasations. Centre dark purplish red, fading through colour scheme of a bruise. Edges raised (see spot on right buttock), blood-red; outline sinuous by coalescence with other areas.

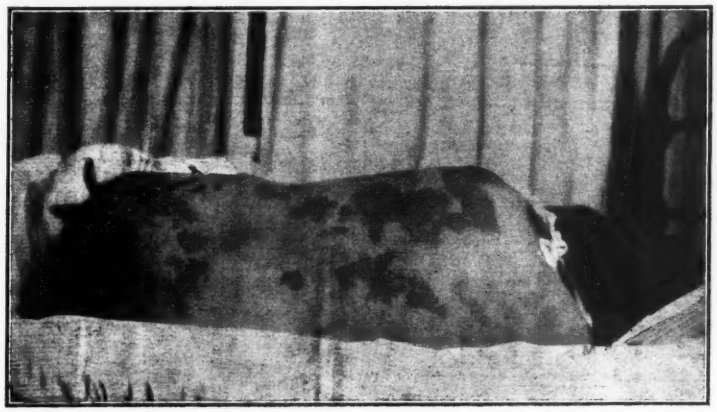

FIGURE II.
See Description to Figure I.

Reports of Cases.

A CASE OF ANGIONEUROTIC ŒDEMA, COMBINED WITH URTICARIA, WITH PURPURIC STAINING, RAYNAUD'S DISEASE AND SCLERODERMA.[1]

By **H. Swift, M.D. (Cantab.),**
Lecturer on Medicine at the University of Adelaide.

William E., *æt.* 35, single, occupation "boots," was a sailor for ten years, was admitted into the Adelaide Hospital on August 3, 1918. He was suffering from much swelling of the forehead, temples, cheek and lips. There was also a considerable amount of swelling under the chin and in the neck. He had considerable difficulty in swallowing, and his voice was altered. He also complained that he was unable to straighten his legs, and so was unable to walk.

He states that he has been subjected to swellings similar to the present in different parts of the body for the last 18 years. He contracted malarial fever when in Calcutta in 1900, and as he was recovering from his first attack of fever he had his first attack of "swelling," followed by red patches on his skin.

[1] Read at a Meeting of the South Australian Branch of the British Medical Association on August 29, 1918.

He says that he gets severe, throbbing pain in the region of the swelling, and as this reaches its height in a few hours the pain disappears. As the swelling disappears a rash appears in the same situation, which gradually fades away in a few days.

In January last he had a severe attack of vomiting, with diarrhœa and melæna. This was the first attack of the kind. Since then he has had a few similar attacks, the last one on August 8, when he passed some blood and mucus in his stools. He has never passed any blood in the urine.

When admitted, his face was much swollen, especially the forehead, nose and cheeks and lips, but curiously the eyelids were not much affected. There was considerable swelling under the chin, in the neck, and also both posterior triangles appeared to be brawny and swollen. His saliva was collected in his mouth, and he had much difficulty in swallowing. The temperature was 39° C., pulse-rate 124 and respirations 22. The next day his temperature was normal, nearly all the swelling of face and neck had disappeared, and he could swallow without difficulty. On the forehead, nose and cheeks were several petechial spots, varying in size from 0.5 to 1.5 centimetres. He was sweating profusely about the face, neck and upper part of the trunk. In the region of the left scapula and in that of the lower part of the left side of the thorax there had now appeared a large, irregularly shaped, reddened area. The edges were raised, like unto urticaria, and were of a blood red colour. These became darker or purplish red. The other had a tendency to fade in the centre; it was purpuric in character. The discoloured areas were very irregular in shape and outline, and some of them coalesced with others; some, the smaller, remained discrete and gradually, after a few days, faded like a bruise.

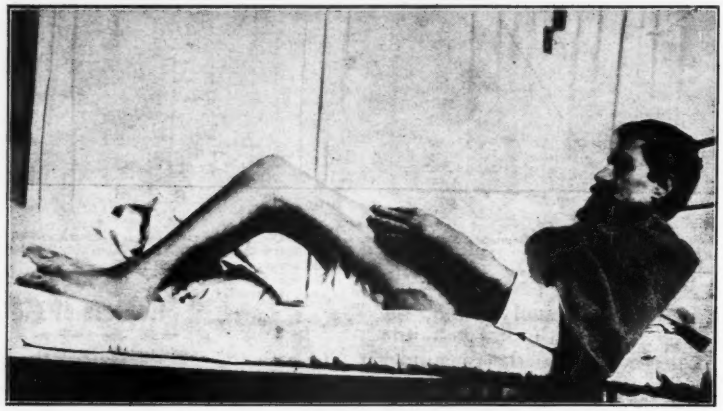

FIGURE III.

Shrunken, Wasted Legs; Contractures; Skin and Fascial Aponeuroses Involved. Hands involved to slighter extent. Purpuric patches on left buttock; edge brighter red, raised, fading in grades like a bruise.

The arms were thin, with some sclerosis of the deep tissues, but the skin was moderately thin, and could be pinched up. The fingers were cold, clammy and ischæmic, pressure having very little effect in alteration of colour, nor did elevation nor lowering the hands. The nails were much curved, both longitudinally and laterally, and there was much clubbing of the fingers.

In the legs there was much wasting of muscles, with partial fixation of the knee-joints, motion being very limited. The joints were in a semi-flexed position and could not be straightened. There was much limitation also in movement of ankle-joints. To the touch the whole tissues appeared to be rigid, firm and cold, and gave one the impression of a cadaver. The feet had the same ischæmic condition as the hands.

The Wassermann reaction was negative. He denied infection, although years ago he had a soft sore.

The urine was acid, and its specific gravity 1,010. It contained neither albumin, sugar nor blood.

Blood.—Hæmoglobin, 75%; red cells, 4,648,000; white cells, 7,000; colour index, 0.8. Film shows slight anisocytosis and a few microcytes.

For some days he continued to have fresh crops of the *urticaria purpura*, and he also had some deep-seated swellings on the arms and legs, which would disappear, with a few petechial spots showing up the day after, but with no well-marked, general staining, as if the deep extravasation were blood.

He was given calcium lactate, with the result that for several days he had no affections of his skin at all, and he appeared well, except for the ischæmic condition of the hands and the sclerodermatous condition of the legs, but then the swellings and the urticarial patches reappeared and he has been having frequent attacks since. Considering the anaphylactic character of the condition, I have been trying to find the source of the toxin, and having all his food accurately tabulated and notes of corresponding attacks recorded. He is now on milk only. We have been unable to discover any focus for bacterial auto-infection.

Osler remarks:—

> There is a form of severe purpura, often with urticarial manifestations, which is also associated with marked gastro-intestinal crisis; and it is also interesting to note that Schlesinger has reported a case in which a combination of erythromelalgia, Raynaud's disease and acute œdema occurred.

The most marked features in this case are the urticarial manifestations of a purpuric character, the acute œdema, with deep swellings, the symmetrical ischæmic condition of hands and feet, the clubbing of the fingers and the diffuse scleroderma of the extremities. The gastro-intestinal symptoms have not been a prominent feature, but they appear to be developing.

It would appear that the vasomotor system is very much disturbed, resembling in the acuteness and transitory nature the condition of anaphylaxis. It would also appear as though the frequent attacks of swelling were causing matting of the tissues, and so giving rise to the limitation of movement and contractions. The arms are showing some of this condition, as well as the legs.

Reviews.

DREAMS.

Psychologists are apt to adopt arguments which are tantalizing, because it is just as difficult to disprove them as it is to accept them as valid. The major part of what has been written about dreams is unconvincing, although their analysis may prove of use in the application of suggestion as a means of treatment. Nevertheless, the cause of dreams remains speculative. Mr. J. W. Wickwar, who has recently dealt with this subject,[1] has offered an eminently readable and plausible explanation of what dreams are, what they mean and how they are caused. He adduces little proof for his theories, but leaves the reader to ascertain whether his explanations are not more likely than others more complex and vastly more uncanny. Not the least refreshing part of the pamphlet is that concerned with psycho-analysis. The author wisely refrains from discussing the value of psycho-analysis in the treatment of morbid conditions, but by a little common sense, a clean, open survey of the contents of dreams, he is able to discount a great deal of the doctrine of the psycho-analysts and to leave them with but a few rags instead of a complete shirt on their backs.

The book is written by a layman for laymen. It may be read by medical practitioners with advantage.

[1] Dreams, What They Are and What They Mean. Being a New Treatment of an Old Subject, by J. W. Wickwar; Second Edition; 1917. London: A. & F. Denny; Small Crown 8vo., pp. 104.

ILLUSTRATIONS TO DR. S. HARRY HARRIS'S ARTICLE.

FIGURE XV.

Ureterogram; stricture of the ureter at the pelvic brim. Cured by dilatation through the cystoscope.

FIGURE XVI.

Pyelogram; hydronephrosis. Same case as Figue XV.. Note dilatation and clubbing of the calices.

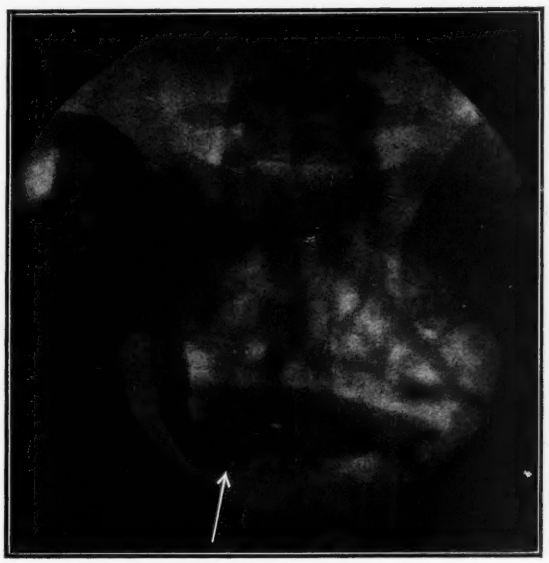

FIGURE XVII.

Ureterogram; stricture of the ureter 3 cm. above the bladder, resisting dilatation. Complete relief by uretero-vesical transplantation. Note some of the injected medium has found its way down into the bladder.

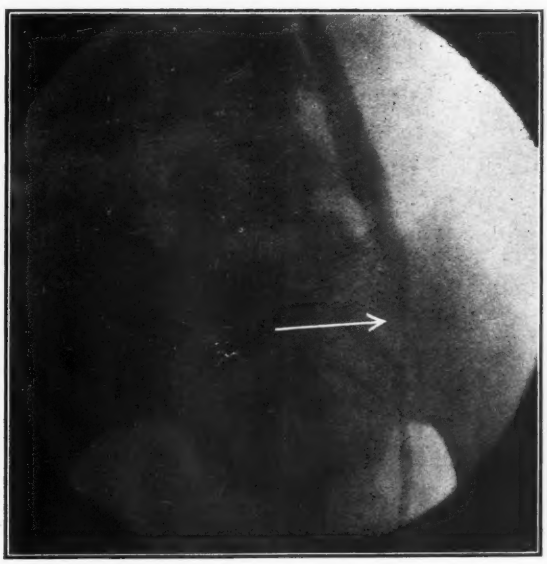

FIGURE XVIII.

Stricture of the ureter. Same case as Figure VII.

ILLUSTRATIONS TO DR. S. HARRY HARRIS'S ARTICLE.

FIGURE XIX.

Impassable stricture of the ureter at level of pelvic brim, requiring nephrectomy. Same case as Figure VIII. and XX.

FIGURE XX.

Pyelogram of same case as Figues VIII. and XIX.. Note dilated ureter and early dilatation of the calices (as in operation specimen). Nephrectomy.

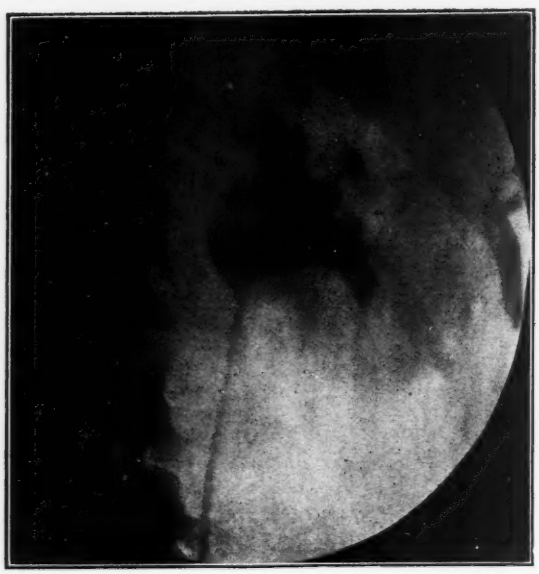

FIGURE XXI.

Pyelogram; hydronephrosis due to obstruction at the uretero-pelvic junction, which at operation was found to be due to aberrant vessels. These were divided and the patient completely relieved.

FIGURE XXII.

Pyelogram; early hydronephrosis; movable kidney; ureteral kink from fascial bands; uretero-pelvic adhesions. The patient was five months pregnant. Operation; division of adhesions; nephropexy; natural delivery at term without recurrence of symptoms.

ILLUSTRATIONS TO DR. S. HARRY HARRIS'S ARTICLE.

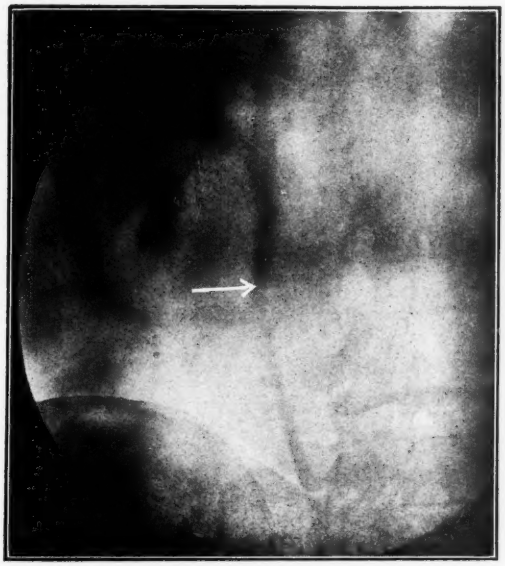

FIGURE XXIII.
Pyelogram: "intermittent hydronephrosis" without dilatation of the pelvic or calices in a patient with movable kidney. Point of obstruction well shown. Nephropexy; cure.

FIGURE XXIV.
Pyelogram: hydronephrosis due to obstruction of uretero-pelvic junction by aberrant artery and vein. Dilated pelvis alone injected. Same case as Figures IX. and X.

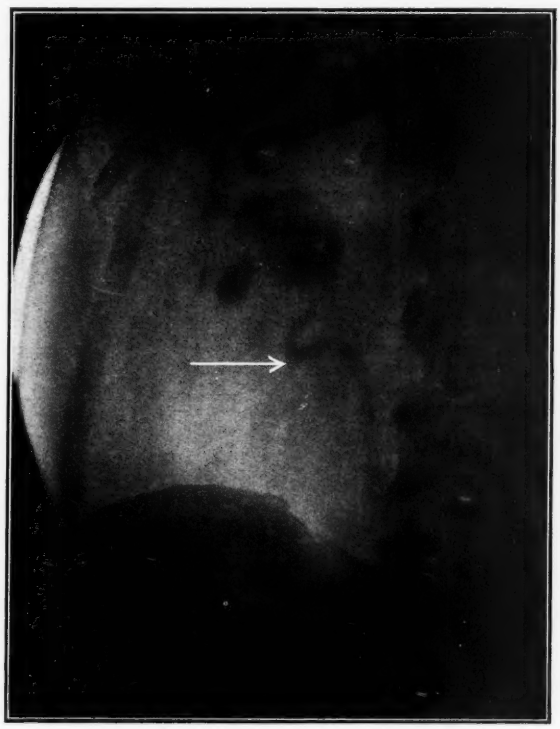

FIGURE XXV.
Pyelogram; hydronephrosis with adherent and misplaced kidney and adherent (and therefore permanent) kink of the ureter. Operation; freeing of kidney and upper part of ureter; nephropexy; cure.

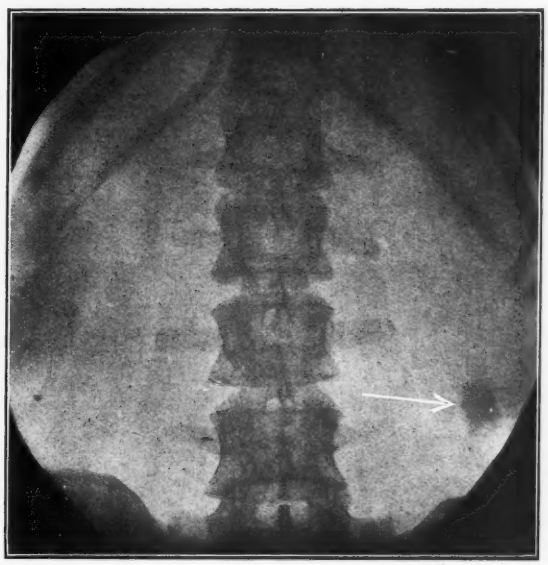

FIGURE XXVI.
Radiogram of gall stone. Radiographic diagnosis of renal calculus apparently confirmed by cystoscopic demonstration of hydronephrosis. Operation; removal of hydronephrotic kidney (Figure XIII.), which contained no stone. Therefore, peritoneum opened; large solitary stone in gall bladder. Cholecystostomy; cure.

ILLUSTRATIONS TO DR. S. HARRY HARRIS'S ARTICLE.

FIGURE XXVII.
Radiogram of pelvic area, showing a shadow in the region of the ureter, which Figure XXVIII. proves to be outside the lumen of the ureter (*i.e.*, a phlebolith).

FIGURE XXVIII.
Ureterogram; same case as Figure XXVII.

FIGURE XXIX.
Pyelogram; hydronephrosis of the lower ureter type (due to prostatic obstruction—*vide* text). Duration of symptoms, four years

FIGURE XXX.
Same case as Figure XXIX.. The ureterogram shows shadows in the pelvic area to lie outside the lumen of the ureter (for notes of this case, see text). Some of the injected medium has flowed back into the bladder.

The Medical Journal of Australia.

SATURDAY, JANUARY 18, 1919.

A Retrospect.

II.

Notwithstanding the great strain caused by the prolonged continuation of the war, and the consequent necessity to concentrate a large amount of energy for the direct treatment of wounded soldiers in the field, the medical profession throughout the world has utilized the many opportunities offered by the fact of war, and has undertaken much investigational work of a scientific nature. The year 1918 has brought to light no great discoveries in medical science, but more or less steady progress has been registered, and some important observations have been made.

Medicine.

In the domain of medicine proper much attention has been paid to the specific treatment of various infective disorders, notably epidemic cerebro-spinal meningitis, influenza, pneumonia and the dysenteries. The greater part of the work conducted in this direction has been a continuation of that instituted in previous years, and unanimity of opinion has not yet been reached in regard to many of the points at issue. The future of serum and vaccine therapy of many of these affections will, of necessity, be settled in the laboratory. Some clinicians have recorded favourable results from immune sera in epidemic meningitis, while not a few observers have questioned the value of this mode of treatment. It appears, however, that antisera produced by definite types of meningococci are specific in infections by the same types. It is now largely accepted that pneumococcal infections can be treated with signal success by means of sera specific to the type of pneumococcus infecting the patient. Similarly, the prophylactic value of a pneumococcal vaccine containing the four main types, or Lister's eight type vaccine, is said to be of a high order. Recently the fundamental accuracy of Lister's work and that of American bacteriologists has been severely attacked by Pratt Johnson. This author maintains that the organisms belonging to each of the types identified up to the present do not necessarily belong to a single strain.

Lusk and Miller's work, published in 1916, on the value of foreign proteins in the treatment of chronic arthritis has found an increasing number of adherents. These authors claim remarkable results from the use of typhoid vaccine in acute, subacute and chronic arthritis.

The starvation treatment of diabetes, associated with the name of Allen, continues to find enthusiastic supporters. It may be said that while properly adjusted starvation has been proved to be of great value in many cases of diabetes, the claims made for this treatment have undergone some modification, and the exaggeration which threatened to discredit it, is gradually receding. There can be but little doubt concerning the advantage of Allen's treatment in selected cases. Brief reference will be made later to the importance of the work undertaken in connexion with the myopathies by McCrudden and Janney. In other respects the studies of the internal secretions and their disordered elaboration have elicited little that is of clamant importance. In the treatment of exophthalmic goître one relatively unscientific treatment, surgical removal of a portion of the thyroid gland, has been to some extent supplanted by another doubtfully scientific method of treatment, exposure to Röntgen rays. The clinical results are held to be good, and the change may be regarded as a distinct advance. In another condition the abandonment of surgical intervention has also yielded improved results. The condition referred to is empyema complicating pneumonia. It has been found that better clinical results are obtained if the pus in the pleural cavity is not evacuated during the acute stages of the condition.

Therapeutics.

Many investigations have been continued upon the use of preparations of quinine in various malarial affections, and upon the amœbicidal qualities of remedies other than emetine. In regard to quinine, attention has been paid to different methods of exhibiting the alkaloids of cinchona and to the dosage. While it cannot be affirmed that there is unanimity of

opinion, the conclusion seems to be forming that the appearance of a high concentration of quinine in the blood is the most certain index of the effectiveness of any method of giving quinine. Consonant with this opinion the practice of giving intravenous and intramuscular injections is increasing, while the doses, administered by these channels, are higher than those given by the mouth. A survey of the different publications shows how much more careful investigators have become in their statements about the presence or absence of malarial parasites from the human body after any particular mode of treatment. A number of microscopical examinations of the blood, spread over a long interval of time, is considered to be necessary before any conclusions are drawn concerning the absence of plasmodia.

In regard to amœbic dysentery investigations have shown that different inorganic poisons have a lethal influence upon the *Entamœba histolytica*. When the concentration of arsenic or other inorganic poison is not sufficient to kill the protozoa rapidly, a strain of the parasite may be produced which has become resistant to the morbific quality of the drug. In a similar way it is supposed that races of the amœbæ and forms of dysentery become resistant to the influence of emetine. Search has, therefore, been made for other remedies which will be injurious to the protozoal parasite causing dysentery, or which will serve to clear the intestines from these pathogenic micro-organisms. It is recognized that substances which are, in general, inferior to emetine for this purpose, may be of service in a small number of cases in which emetine has been unskillfully exhibited. Of these remedies the Mexican *chaparro amargosa* has received most study.

Among new remedies the introduction of benzyl alcohol as a local anæsthetic seems to be of importance. This aromatic body is easily made, has little toxicity for the human body, remains stable when heated, and is endowed with the power of rapidly inducing loss of sensibility. It can be used on the surface of mucous membranes and by hypodermic injection.

P. J. Hanslik, working in conjunction with different collaborators, has added to his careful study of the pharmacological properties of the salicylates. This investigation, which has been carried on over a number of years, has been characterized by accurate chemical estimations of the amount of the salicylic radicle in the blood and in the excretions. Comparisons have been made of the amounts of salicylic acid in the blood and in the urine of rheumatic and healthy persons, who have received sufficient sodium salicylate to produce a toxic condition. It has been supposed that salicylic acid is mainly excreted through the kidneys in conjugation with glycocoll as salicyl uric acid. Evidence is now brought forward that the substance which appears in the urine is salicylic acid, and that it constitutes 70% of the salicylic acid combined with sodium in the dose administered. A small portion of the salicylic acid excreted in the urine forms parts of the ethereal sulphates in which the salicylic radicle replaces phenol, indol or skatol. As very little salicylic acid is present in the fæces and in the sweat, it would appear that the remainder undergoes destruction in the animal body. It has been shown that more is retained in the bodies of rheumatic subjects and that, in general, the amount destroyed in metabolic processes is greater the higher the body temperature.

Surgery.

In the sphere of surgery war wounds have continued to hold the attention of practitioners, and the problems of civil surgery have been thrown a little out of focus. The twelve months have yielded the fruits of experience rather than any strikingly new ideas. Primary suture of wounds has become a principle in surgical practice. This has gradually been evolved from the ripe of experience of military and civil surgeons. The conditions for its successful employment have assumed definite shape. These conditions have been lucidly presented by Anthony Bowlby. The subject of surgical shock has been reviewed by Bayliss, who has rejected both the acapnia and the adrenalin theories in favour of Cannon's theory of "exæmia." This is that the accumulation of blood in the capillaries causes the lowering of the blood pressure. Cannon has further pointed out that Ringer's solution or physiological saline solution leaves the circulation rapidly, within a half of an hour, and these solutions are, therefore, of small use in the treatment of shock. In their stead he recommends the use of a 6% solution of gum arabic, with 0.9%

sodium chloride for intravenous injection. It is held to be as efficacious as blood transfusion for certain purposes, and its advocates base their claims on the success attending its employment.

The Carrel-Dakin treatment is now employed for septic conditions other than those war wounds for which it was originally introduced. For example, it is used in empyema. Success, however, depends largely on a rigid adherence to detail, and is not attainable unless much skilled assistance is at hand. It has been found that the solution dissociates rapidly, and its antiseptic action is consequently short-lived. Its application in the hurried practice of a busy hospital is often completely ineffective. It has been suggested that Carrel would not recognize a great deal that passes under the name of the Carrel-Dakin technique. Di-chloramine-T dissolved in eucalyptol has been advocated in the place of the hypochlorites. Cushing favours its routine use in brain surgery, on the ground that aqueous solutions tend to give rise to œdema.

Considerable progress has been registered in intra-thoracic surgery. Laparotomy of the chest is now more commonly resorted to than formerly. Local and intra-tracheal anæsthesia each have their staunch supporters for this purpose. Surgeons emphasize the necessity of accurate closure of the thoracic wound, whenever this is possible. By this means the mediastinum is steadied, and the opposite lung is given a more favourable chance of performing its functions.

In the chapter of the surgery of the stomach and duodenum segmental excision of the ulcer is still under discussion. The pendulum has swung back somewhat from its previous radical position. Closure of the pylorus in gastro-enterostomy is now considered to be of doubtful value. For ulcers of the lesser curvature, gastro-enterostomy with the cautery method of Balfour remains the most favoured operation.

Good results have been reported of splenectomy for hæmolytic jaundice. The Kondeleon operation for lymphatic obstruction appears to have come to stay, and is now recognized as an admirable procedure in a certain class of case. Cranioplasty is apparently of value mainly for its cosmetic advantages, and the method that enjoys the greatest popularity is that of Morestin, in which pieces of rib cartilage are used to bridge the defect.

Pathology.

Pathologists in Great Britain, France and America have concentrated their energies during the whole course of the war toward the many difficult problems inseparable from military activities and, thanks to the co-ordination of the work in many laboratories and to the peculiar circumstances under which it was carried out, a large addition to the knowledge of disease has been made. During the final year of the war there have been few great discoveries, but there has been much useful work in clearing up doubtful points, and in establishing doctrines which belong properly to past years.

The demonstration of the rôle played by lice in the transmission of trench fever is of great importance. After a few experiments by Davies and Weldon, a War Office Committee showed conclusively that lice could convey the virus of trench fever from infected persons to healthy persons. The virus is rarely, if ever, transmitted by the bite of the louse, but the infection passes into the healthy organism through the scratches on which the excreta of the louse are deposited.

Weil's disease or *spirochætosis ictero-hæmorrhagica* has been met with among the British, French and Italian troops in the various fighting lines, as well as in America. Rats infected with *Spirochæta ictero-hæmorrhagiæ* have been found in the trenches and in the country behind the trenches.

The heavy incidence of intestinal diseases among the troops operating in the Mediterranean area has led to a considerable amount of valuable research work into the nature of the dysenteries, both amœbic and bacterial. Many, if not all, of the difficulties connected with the pathological recognition of these diseases have been cleared up. While it may seem invidious to make a selection from such a mass of important work, particular mention may be made of the report issued by Glynn and others on the bacterial findings in those convalescent from enteritis, and of the report by Wenyon and O'Connor on human intestinal protozoa in the near East.

The Medical Research Committee of the National Health Insurance in Great Britain has arranged a

very large amount of investigational work, and a number of important reports have been issued during the course of the year. This work is essentially co-ordinated work, and the onus of the organization has fallen on its capable Secretary, Sir Walter M. Fletcher, K.B.E., who has received the honour of knighthood in recognition of his valuable services. One of the most important of the recent publications of the Committee has been that on the epidemiology of pulmonary tuberculosis, by Dr. John Brownlee. He has shown statistically that different strains of tubercle bacilli exist, each having a special affinity for persons of a definite age period. Among the other reports there is one which deals with the causation of rickets by Miss Margaret Ferguson, who has worked in collaboration with Drs. Noël Paton and Leonard Findlay. These authorities have arrived at the conclusion that while the cause of rickets is still undetermined, the evidence available tends to show that the condition is not inherited, nor is it produced by errors in diet. There is little to support the assumption that it is an infective disease. On the other hand, they find much in favour of their contention that environmental conditions play an important part in the ætiology. Insufficient air space, imperfect ventilation, absence of facilities for open air life, and imperfect parental control are factors which appear with surprising regularity in the home conditions of children suffering from rickets.

Under the auspices of the Medical Research Committee a special committee has been appointed to consider the possibility and advisability of prescribing standard methods in pathological diagnosis. This committee has issued three reports, and each of them is a valuable contribution to the practical application of scientific methods. The subjects of these reports are the Wassermann test, the laboratory diagnosis of gonorrhœa and the detection of spirochætes. Early in the course of the war the standardization of the agglutination tests in enteric fever was dealt with.

The importance of the recognition of the types of bacteria in the infective disease is patent. While this is not a new subject properly belonging to the year 1918, the significance of the existence of specific types of many bacteria is becoming more evident and progress in pathology is being based on these discoveries. In epidemic cerebro-spinal meningitis at least four different types of meningococci have been recognized, and it has been shown that the antiserum must be homologous to the type of organism present to be effective. In the instance of the gonococcus, at least twelve types have been differentiated, and it has been shown that in the performance of the complement fixation test due regard must be had to this fact. American pathologists distinguish three distinct types of pneumococci, and a group of mixed types which have not yet been clearly established. It will be remembered that Lister, working in the South African Institute of Medical Research, described four types of pneumococci in 1913 and has since claimed that at least eight types are in existence. He has recently demonstrated that inoculation with a vaccine containing eight types of pneumococci has resulted in protecting the South African miners from pneumonia caused by these types. In America the importance of utilizing specific organism in the prophylaxis and treatment of pneumonia has been universally admitted (*vide supra*).

The outbreak of a disease simulating poliomyelitis in various parts of Australia has led to the publication of several important articles. The disease has been variously termed "X disease," "mysterious disease" and an aberrant form of poliomyelitis. The majority of the authors have concluded that it was either a form of acute poliomyelitis or a disease closely allied to it. A disease resembling this affection very closely has been epidemic in various parts of Europe, and at a recent meeting of the Royal Society of Medicine evidence was adduced to show that it was not identical with classical acute poliomyelitis. On the assumption that the disease is a distinct one, the name of *encephalitis lethargica* has been introduced.

Conflicting opinions have been expressed concerning the bacteriology of the pandemic of influenza which has been threatening Australia for many weeks. The influenza bacillus has been isolated in many cases, both from the sputum and from the lungs. In very many cases this bacillus has not been found. Recent experiments by Nicolle and Labailly would show that a filter-passing virus can be obtained from the sputum and bronchial secretions. These authors claim that inoculation with filtered bronchial secretion from

patients suffering from influenza at times causes a typical attack of influenza.

Neurology.

During the past year neurologists have again been occupied in utilizing the unprecedented opportunity afforded by the war to study traumatic affections of the nervous system. In this connexion we must pay tribute to France, by calling attention to the admirable series of reports, papers and books, published by Marie, Babinski, Souques, Tinel, Meige, Grasset, André Thomas, Lepine, Roussy, Lhermitte and other distinguished French neurologists, publications that cover a wide field and mark a real scientific advance. In England, too, advantage has been taken of war experience to increase our knowledge of parts, seldom in ordinary times, the seat of uncomplicated disease or injury. Gordon Holmes has studied the effects of bullet wounds of the cerebellum, making observations which contradict the view held by many physiologists and clinicians, that the dominant function of the cerebellum is to maintain the equilibrium and which shake the belief, founded mainly on experiment, that there exists a focal localization of function in the cerebellum. Similarly, Riddoch, investigating the reflex functions of the spinal cord after complete division, sees imperfections in the classical pictures hitherto drawn. The most striking of these is the observation that the completely severed cord may not only recover its reflex functions, but may become highly excitable, a finding which is contrary to the teaching of Bastian, for years accepted as correct. Another important research is that of Head, in collaboration with Riddoch, on the automatic bladder and excessive sweating after spinal severance.

At a result of a large number of routine examinations made while serving with the Royal Navy, Fildes and Baker have arrived at some conclusions on the epidemiology of cerebro-spinal meningitis which are at variance with current views. They indicate that this disease occurs only when a susceptible person is in contact with a high proportion of carriers. Hence they term cerebro-spinal meningitis "a saprophytic epidemic of the meningococcus in the throats of the population at large." It is also of epidemiological interest to learn from the study of the 1918 epidemic of acute polio-encephalitis in England, and of a kindred epidemic in Australia, that it is now held that this disease is distinct from acute poliomyelitis (*vide supra*). It was at first thought by some observers that the disease was caused by a mutant of the virus of acute poliomyelitis.

The interdependence of the sympathetic and central nervous systems has engaged the attention of Orr and Rows, who assume that some organic disturbance of the spinal cord may result from disturbance of the sympathetic system. This opens out new lines of thought, as do two articles by Americans (McCrudden and Janney), recognized as authorities in connexion with metabolic investigations. Their recent work indicates that the cause of muscular dystrophy is hypoglycæmia, and that this is the outcome of disease of the adrenals or other endocrine glands.

The problem of the feeble-minded, the treatment of insanity in its early stages, education and brain development, the evaluation of mental tests and the estimation of brain capacity *in vivo* are all subjects which have received earnest consideration during the year. They still await energetic practical elaboration.

[*A summary of the recent advances in other specialties will be published in the continuation of this article.*]

The Nobel prize for physics for the year 1918 has been awarded to Professor C. Barkla, of the University of Edinburgh.

The announcement has been made that the Minister of Health of New South Wales has appointed Dr. R. T. Paton, Director-General of Public Health, temporarily, to be Commissioner for the purposes of the *Venereal Diseases Act*.

Enquiries have been made from time to time concerning the composition and physiological value of a preparation called Omnopon. Many years ago the late Professor H. Sahli, of Berne, Switzerland, undertook a comprehensive pharmacological study of the action of the several opium alkaloids. He arrived at the conclusion that a therapeutic advantage would be gained by isolating each of these alkaloids in a state of chemical purity and by compounding them in definite proportions, in the form of soluble hydrochlorides. Twenty alkaloids were used for this purpose. The satisfactory therapeutic results of this mixture, as compared with opium, which notoriously varies in pharmacological action, led him to arrange with the Hoffmann-La Roche Chemical Works for the introduction of a standard preparation, under the name Omnopon. This preparation has enjoyed a considerable popularity in different parts of the world, and has been largely used during the war. We are informed that the New Zealand Expeditionary Force carried with it Omnopon hypodermic tablets and that the Royal Army Medical Corps and the Canadian Army Medical Corps included this preparation in their regular outfits.

Corrigendum.

In the notice dealing with the New Year's honours, which appeared in *The Medical Journal of Australia* of January 11, 1919, the entry under Knight Commander of the Order of the British Empire should read:—

Colonel Sir Almroth Wright, C.B., F.R.S.

Abstracts from Current Medical Literature.

OPHTHALMOLOGY.

(19) Ocular Lesions and Visual Disturbances in Quinine Poisoning.

In the September number of the *American Journal of Ophthalmology* Elliot concludes a highly important and interesting article on the ocular lesions and visual disturbances of quinine poisoning. After exhaustively reviewing the experimental results at his command for the past forty years, Elliot sums up. Briefly the facts are as follows: Quinine poisoning manifests itself in selecting two special organs for attack, those of sight and hearing. Experimentalists are divided into two schools as to the real nature of the lesions produced by this drug: (1) those who ascribe the blindness to starvation of the retina, as a result of the ischæmia produced, and (2) those who believe in a selective toxic action of the drug on the cells only of the retina. With regard to the latter group of experimenters, opinion is again divided as to which cells are chiefly attacked. After dealing with the experimental side Elliot brings in the clinical aspects, as noted by the most trustworthy observers, and adduces some very strong arguments against the ischæmia school. These consist of clinical observations of recorded cases, which show that in well-marked cases of absolute amaurosis there were no changes in the retinal vessels, or, at most, there were only slight contractions. Further, the author quotes another reliable authority, who recorded the fact that there was a lack of close connexion between the degree of ischæmia and the state of the vision, and that "one of the most striking phenomena of quinine poisoning is the recovery of vision," while optic disc pallor increases when the shrinking of retinal vessels is increasing. In dealing with the signs and symptoms, which the author holds are specific and distinct, he summarizes the characters of the condition as follows: "(1) Absolute completeness of loss of all vision, sometimes coming on quite suddenly; (2) the extraordinary recovery of function which may occur suddenly; (3) the fact that the central vision comes back first and that the peripheral vision is recovered more slowly and seldom, if ever, completely; (4) that the colour sense is often damaged, but that if it returns it does so first at the centre, and then works gradually outwards; (5) that a diminution of the light sense, with resultant night blindness, is a frequent, if not an invariable sequence of these cases. No such syndrome occurs in any other form of toxic amblyopia." Elliot concludes that the ocular effects of quinine represent a specific toxæmia of selective action. He holds that ophthalmologists are not yet able to state finally the nature of the structure selected. Treatment consists in ceasing the administration of quinine. Of the drugs used (in the order of their importance) are strychnine, nitrite of amyl, nitroglycerin, digitalis, bromides and iodides and hydrobromic acid. Elliot proposes reduction of the intra-ocular pressure by operative measures in those cases in which the ophthalmoscope reveals constricted vessels.

(20) Embolism of the Central Artery of the Retina in Chorea.

Cases of chorea are of common occurrence, but it is frequently overlooked that the condition may be associated with embolism of the central retinal artery. Such a case is reported by Arnold Knapp (*Arch. of Ophthalmology*, September, 1918). The patient was a female child, aged eight, who had contracted mumps, one side only being affected. A week later she developed typical chorea, and on the following day she lost the sight in the left eye. The optic nerve, seen through a dilated pupil, which would not react to light, was white, with a blurred temporal margin. There was no perception of light. The vessels were normal, except a thinning of the inferior temporal artery. There was the usual "cherry spot" of the relatively overred macula. The case is interesting, in addition, in that the history shows a distinct rheumatic diathesis, repeated tonsillitis, joint pains, altered heart sounds, etc., but, according to Herrick, who examined the physical state of the patient, there was no definite endocarditis, although Knapp declares "the examination of the heart revealed no anomaly and there have been no signs of articular rheumatism, the source of the embolism is an endocarditis of rheumatic origin." Knapp quotes Leber (Germany) as the author of reports of nine cases of this association of chorea and embolism, and states that the cases are always in the young, between the ages of 7 and 26 years. In five of the cases there were cardiac lesions, which were slight in two. In two cases articular rheumatism preceded the eye trouble. Some of the patients had transient attacks of obscuration and blindness preceding the permanent blindness. Nettleship published a case in which an attack of obscuration affected the other eye. With regard to the pathology of this condition, Knapp considers that the embolic theory of chorea is proven, or, at least, substantiated. He states, however, that the condition is not clear. Multiple emboli of the smaller cerebral vessels have been assumed, the affected areas being the *corpus striatum* and the optic thalamus. He admits that other causes than minute cerebral emboli may produce chorea, whilst the frequency of the combination of chorea with diseases causing embolic disturbances is an acknowledged fact. This is borne out by the cases of sudden blindness in chorea, presumably due to embolism. Knapp states that it is a clinical fact that chorea often follows acute articular rheumatism, the endocarditis being perhaps an intermediary in such cases. He also points out how some authors regard chorea as due to an infection. Bacteria have been found on culture in these cases. He concludes by saying that chorea has been occasionally found to follow certain infectious diseases, as scarlet fever, measles and influenza.

(21) Vascular Changes Following Injuries to the Eye.

Edward Jackson reports the clinical data and ophthalmoscopic findings of three cases in which injury to the eye was followed by permanent vascular changes (*Amer. Journ. of Ophthal.*, November, 1918). In the first case the eye was struck by a chip of wood 39 years before. Cataract had formed, and the lens was removed at a later period. The capsule was almost clear and the vitreous contained a few small opacities. There had been no intra-ocular inflammation. Notwithstanding this, there was an almost complete obliteration of the choroidal vessels. The retinal pigment over a considerable area was absent. He suggests that the injury caused a complete thrombotic obstruction in the area of distribution of the posterior ciliary artery, but that from some source sufficient nutritive supply was kept up to prevent tissue necrosis. In the second case the injury was inflicted by a pointed stick. In this case choroidal sclerosis in small areas and obliteration of some of the vessels had taken place. There was evidence of a severe inflammatory reaction. In the third case a child, aged nine, was knocked down by a cow and struck in the left eye, the lower lid was torn away and the eye was torn out of the socket. It was replaced and the wounds stitched up. Three years later there was complete ptosis, and the eye was fixed by scar tissue below and behind. The eye had no perception of light. The optic disc was replaced by an oval, bluish-white area, with brownish-black pigment splotches all round its irregular margin. Apparently normal retinal vessels emerged above and below. To the temporal side of the disc was a crescentic area, presenting the usual appearances of so-called rupture of the choroid. The author points out that the preservation of the retinal vessels rendered the diagnosis of avulsion of the optic nerve somewhat doubtful. Other cases, however, have been described in which the vessels have been apparently uninfluenced.

LARYNGOLOGY AND OTOLOGY.

(22) Treatment of Laryngeal Tuberculosis.

On the assumption that tuberculous laryngitis is practically always secondary to pulmonary tuberculosis, and that it is caused by the tubercle bacillus, associated with certain predisposing factors, Julius Dworetzky (*Long Island Med. Journ.*, May, 1918) outlines the following treatment: (1) Prophylactic.—Removal of laryngeal irritants resulting from nasal obstruction or disease, pharyngitis or tonsillitis, abuse of voice, excessive coughing, as well as smoke, dust, tobacco and alcohol. (2) General.—Any pulmonary activity requires abso-

lute rest. The larynx in this case may be treated with the patient in bed, but never otherwise. Only if the lungs are quiescent should the patient be treated in the consulting-room. Outdoor sleeping in a dry, mountainous climate, preferably in a sanatorium, with a full and nourishing diet, is desirable. As activity in the lung and larynx subsides carefully regulated exercises should be prescribed. (3) Local.—In chronic cases, with but slight discomfort, a spray of 5% menthol in olive oil at frequent intervals keeps the larynx clear of accumulated muco-pus. If there is no discomfort no treatment need be ordered, except to warn the patient against abuse of the larynx. Acute and subacute cases should be treated locally at regular intervals. The patient should be supplied with a De Vilbiss atomizer and told to spray the throat four or five times daily with an alkaline solution, followed by a solution of 5% menthol in olive oil. Rest of the voice is imperative, absolute silence in acute cases, and only whispering when the condition becomes subacute. For topical application a solution of iodine in glycerine, in strengths of from 1½% to 7½%, applied with a laryngeal applicator, is recommended, the strengths being gradually increased from 1½% as tolerance is established. It should be applied gently during quiet breathing. The entire larynx may be medicated by asking the patient to attempt to phonate when the applicator is in the larynx, the swab being then immediately removed and the patient asked to breathe quietly, to avoid a coughing spasm. In cases of fresh ulceration, to avoid the pain caused by the application of medicaments the larynx may be sprayed beforehand with a 2% solution of cocaine. Pain and distress on swallowing may call for the application of orthoform or cocaine before meals. Epiglottidectomy may be indicated in dysphagia, due to infiltration and ulceration of the epiglottis, even though the disease be not confined to that organ.

(23) Suppurative Labyrinthitis.

In an acute labyrinthitis two tests are necessary, *viz.*, that for complete loss of hearing (Bárány apparatus) and for vestibular nystagmus (caloric reaction), according to Arthur G. Duel (*Boston Med. and Surg. Journ.*, March 8, 1917). Further testing only causes unnecessary distress, and even danger, without shedding any additional light on the condition. If the patient shows no symptoms outside the labyrinth, operation should be withheld until the acute symptoms subside; this will give a better chance of recovery. If, however, the temperature rises above 37.8° C., accompanied by headache, photophobia, exaggerated reflexes, a positive Kernig's sign and evidence in the spinal fluid of beginning meningeal involvement, operation is indicated. As no acute case is operated on unless early symptoms of meningeal involvement are present, the dura should invariably be drained when the labyrinth is opened. The vestibule should be opened both in front and behind the facial nerve, the cochlea uncapped, and the *scala* and *modiolus* entirely removed, so that the meningeal fluid washes freely through. In chronic cases, where there is no meningeal involvement, the cochlea should be uncapped and special care taken to avoid breaking down the *modiolus* to a point which will open a connexion with the meninges. It is not advisable to curette granulations, for fear of opening up an avenue of infection, either through the *aqueductus cochleæ* or *aqueductus vestibuli*.

(24) Vaccine Treatment of Ozœna.

An investigation into the therapeutic value of the ozœna vaccines in vogue was undertaken by Otto Glogau (*Laryngoscope*, May, 1918). Patients giving a positive Wassermann reaction, as well as those with any suspicion of tuberculosis or sinus involvement, were excluded, the intention being to treat, if possible, only so-called idiopathic cases of ozœna. The types of vaccines used and the results may be shortly stated as follows: Hofer's original vaccine, made from Perez bacillus strains, two cases—negative results; autogenous polyvalent vaccine, prepared from seven strains of his patients, twelve cases—one showed transient improvement, the others negative results; stock vaccine Perez (Horn), five cases—three with negative results, two temporary improvement only; Parke, Davis & Co.'s ozœna vaccine combined, five cases, with negative result in three cases and slight transient improvement in two cases; Parke, Davis & Co.'s ozœna vaccine Perez, one case, with negative result. Glogau concludes that ozœna, as characterized by foul odour and yellowish crusts, is no clinical entity, and, therefore, not caused by a specific organism, such as the Perez bacillus. The atrophy of the mucosa and underlying structures, being primarily caused by bad atmospheric and hygienic circumstances, by chronic general ailments, such as tuberculosis, syphilis, anæmia, metabolic disturbances, toxæmias, etc., once the condition becomes chronic and complicated by decaying crusts in which various organisms find suitable pabulum for their growth and the production of putrefactive processes and stench, the therapy will be symptomatic only, and will give no chance of cure, either by paraffin injection, galvanization, application of antiseptics or by vaccine injection. The organisms found only in the crusts, and claimed by different investigators as being the ætiological factors in ozœna, include the Perez bacillus (the transported *bacillus bronchi-septicus* of distemper), the Abel and Friedländer bacilli, the pneumococcus, the *micrococcus catarrhalis, bacillus pyocyaneus, staphylococcus*, etc. Hence, if vaccine is of any scientific value in ozœna it may relieve the small part played in the increase of the symptoms of crustation and fœtor by the action of the particular germ from which the vaccine is taken. Transient improvement is therefore produced, not only by the much-heralded Perez vaccine, but also by any stock vaccine of staphylococci, streptococci, Abel's or Friedländer's bacilli, etc., if these germs happen to be present in the crusts.

(25) The Caloric Test in Normal Individuals.

In an examination of 110 healthy individuals with regard to the time of commencement and duration of nystagmus in the caloric test, C. A. Swan (*Journ. Laryng., Rhin., Otology*, April, 1918) used 100 c.cm. of water at 16° C., which flowed from irrigation for 60 seconds. The average onset of the first visible movement of the eyes in 41 cases was 50 seconds, and the total duration of the nystagmus 37 seconds. In all cases the time from the commencement of irrigation to that of cessation of nystagmus was 96 seconds, a difference of nine seconds in the two series of observations. There seemed to be no constant time of onset and no constant duration of the nystagus, and in health these varied in different individuals. In thirteen instances no nystagmus was obtained under the given conditions, but in these cases vertigo was severe on attempted movement. The author thinks the water was not cold enough, and suggests the use of water at 14° C.. Swan found a prolongation in the normal duration of induced nystagmus followed a long period of scouting and fighting, but after a period of rest the normal reaction was obtained.

(26) Diagnosis of Tuberculous Laryngitis.

Hoarseness is regarded by J. Dworetzky (*Journ. Amer. Med. Assoc.*, August 25, 1917) as the commonest symptom of tuberculous laryngitis. It generally appears insidiously in chronic cases, but more abruptly in acute and subacute. Discomfort in the larynx, variously described, is the next commonest symptom. Dysphagia, dysphonia and aphonia are late symptoms. In the early stages infiltration is common; later more extensive ulceration occurs. Acute cases show macroscopic tubercles, soft œdema and rapid destruction of tissue; subacute shows pseudo-œdema, due to proliferative changes and fibrosis, and runs a slow course. A purulent discharge from the posterior nares may set up a thickening at the posterior commissure, and cause a condition resembling tuberculosis of the larynx. Bronchiectasis may produce a similar effect. *Laryngitis sicca* may accompany accessory sinusitis. Lupus is characterized by a warty growth, with marked fibrosis but little ulceration. Hypertrophic laryngitis, syphilis and carcinoma have also to be excluded.

(27) Gradenigo's Syndrome.

Douglas Guthrie (*Edinburgh Medical Journal*, July, 1917) reports a case of acute middle-ear suppuration, accompanied by intense unilateral headache and paralysis of the abducent nerve. At the operation the mastoid was found to be of the "pneumatic" type, pus was looked for between the dura and petrous, but none found. Recovery took place, and a year later only slight diplopia remained.

Naval and Military.

APPOINTMENTS.

The following appointments, promotions, etc., have been notified in the *Commonwealth of Australia Gazette*, No. 3, of January 9, 1919:—

Australian Imperial Force.

First Military District.

Lieutenant-Colonel A. H. Marks, D.S.O. (now Officer Commanding 1st Australian Casualty Clearing Station), to be Assistant Director Medical Services, 1st Australian Division, and to be temporary Colonel whilst so employed, *vice* Colonel R. B. Huxtable, C.M.G., D.S.O., V.D. Dated 27th September, 1918.

Third Military District.

Lieutenant-Colonel R. W. Chambers, 11th Field Ambulance, is granted twelve months' leave of absence without pay or allowances, with effect from 1st October, 1918.

Major H. B. Lewers, O.B.E., from 4th Field Ambulance, to command 11th Field Ambulance, and to be temporary Lieutenant-Colonel whilst so employed. Dated 15th September, 1918.

Fourth Military District.

Lieutenant-Colonel T. G. Wilson, Australian Army Medical Corps, is appointed Staff Officer to the Director-General of Medical Services, Australian Military Forces, whilst the latter is employed on special duty overseas, from 28th February, 1918, to 12th September, 1918.

Major F. N. Le Messurier, Australian Army Medical Corps, to command 12th Field Ambulance and to be temporary Lieutenant-Colonel whilst so employed. Dated 21st September, 1918.

Fifth Military District.

Lieutenant-Colonel A. H. Gibson (now Officer Commanding 12th Field Ambulance), to command 1st Australian Casualty Clearing Station. Dated 21st September, 1918.

Army Medical Corps.

To be Captain—

Harold George Daniel Bredal. Dated 23rd October, 1918.

APPOINTMENTS TERMINATED.

The following appointments have been terminated:—

Second Military District.

Major G. H. Vernon, M.C. Dated 12th December, 1918.

Third Military District.

Captain F. P. Edwards. Dated 20th November, 1918.

Australian Military Forces.

PROMOTIONS.

The Governor-General in Council has approved of the following:—

Promotion to be made for specially meritorious service during the present war. Dated 1st January, 1919.

To be Brevet-Colonel—

Lieutenant-Colonel B. J. Newmarch, C.M.G., V.D., Australian Army Medical Corps.

To be Brevet-Lieutenant-Colonel—

Major R. J. Millard, C.M.G., Australian Army Medical Corps.

To be Honorary Lieutenant-Colonel—

Honorary Major H. C. Maudsley, C.M.G., Australian Army Medical Corps Reserve.

To be Brevet-Majors—

Captain A. H. Marks, D.S.O., Australian Army Medical Corps.

Captain G. C. Willcocks, M.C., Australian Army Medical Corps.

Captain J. H. Anderson, C.B.E., Australian Army Medical Corps.

Captain D. M. McWhae, C.M.G., Australian Army Medical Corps.

Captain W. E. Kay, D.S.O., Australian Army Medical Corps.

Captain C. W. Thompson, M.C., Australian Army Medical Corps.

Captain H. St. L. V. Welch, D.S.O., Australian Army Medical Corps.

CHANGES MADE IN CONNEXION WITH THE AUSTRALIAN MILITARY FORCES.

First Military District.

Australian Army Medical Corps—

Herbert Evans to be Captain (provisionally). Dated 1st September, 1918.

Captain (provisional and temporary) R. A. G. Malcolm to be transferred to the Australian Army Medical Corps Reserve and to be Honorary Captain. Dated 1st November, 1918.

Honorary Major J. G. Avery, from the Reserve of Officers, to be Captain and Honorary Major. Dated 1st December, 1918.

Australian Army Medical Corps Reserve—

Honorary Captain R. Belli to be transferred from the Australian Army Medical Corps Reserve, Second Military District. Dated 1st July, 1918.

Second Military District.

Australian Army Medical Corps—

Captain (Honorary Lieutenant-Colonel) C. E. Wassell, D.S.O., to be granted the temporary rank and pay of Lieutenant-Colonel whilst holding the appointment of Officer Commanding No. 21 Australian Auxiliary Hospital. Dated 13th November, 1918.

The provisional appointment of Captain G. E. Manning is terminated, in accordance with Australian Military Regulation 158 (*k*).

Australian Army Medical Corps Reserve—

Charles Daniel Hartley Rygate to be Honorary Captain. Dated 14th October, 1918.

Lennox Graham Teece and Spencer Birkenhead Riley to be Honorary Captains. Dated 5th November, 1918.

Honorary Captain R. Belli to be transferred to the Australian Army Medical Corps Reserve, First Military District. Dated 1st July, 1918.

Honorary Captain C. W. Whiting, M.C., to be granted the temporary rank and pay of Major whilst employed as member of Permanent Medical Referee Board. Dated 13th November, 1918.

Honorary Major W. H. Coutie to be granted the temporary rank and pay of Lieutenant-Colonel, from 1st January, 1919, whilst holding the appointment of Officer Commanding No. 13 Australian Auxiliary Hospital.

Third Military District.

Australian Army Medical Corps—

Joseph Harold D'Amer-Drew to be Lieutenant (provisionally). Dated 1st November, 1918.

Captain (provisional and temporary) L. R. Steele to be transferred to the Australian Army Medical Corps Reserve and to be Honorary Captain. Dated 30th November, 1918.

Australian Army Medical Corps Reserve—

Honorary Captain A. H. Melville to be granted the temporary rank and pay of Major whilst performing the duties of Registrar, No. 16 Australian General Hospital. Dated 28th October, 1918.

Henry Andrew Faulkner to be Honorary Captain. Dated 28th October, 1918.

Fourth Military District.

Australian Army Medical Corps—

Captain H. Carr to be transferred from the Australian Army Medical Corps Reserve. Dated 1st October, 1918.

Honorary Captains P. T. S. Cherry, R. E. Magarey and J. H. Evans to be transferred from the Australian Army Medical Corps Reserve and to be Captains (provisionally). Dated 1st October, 1918.

Captain H. M. Jay relinquished the appointment of Registrar, No. 7 Australian General Hospital, and the temporary rank of Major. Dated 11th November, 1918.

Australian Army Medical Corps Reserve—

Alfred Austin Lendon to be Honorary Major. Dated 20th October, 1918. (This cancels the notification respecting this officer which appeared in Executive Minute No. 776/1918, promulgated on page 2096 of *Commonwealth of Australia Gazette*, No. 171, dated 31st October, 1918.)

Honorary Captain F. J. Chapple to be granted the temporary rank and pay of Major whilst employed at No. 7 Australian General Hospital. Dated 1st December, 1918.

Fifth Military District.

Australian Army Medical Corps—

Honorary Captains S. J. Cantor, V. H. Gordon and J. J. Holland to be transferred from the Australian Army Medical Corps Reserve and to be Captains (provisionally). Dated 1st October, 1918.

Australian Army Medical Corps Reserve—

Honorary Captain J. T. Anderson to be Honorary Major. Dated 1st November, 1918.

Sixth Military District.

Australian Army Medical Corps—

Major (Honorary Lieutenant-Colonel) H. N. Butler, D.S.O., to be granted the temporary rank and (part-time) pay of Lieutenant-Colonel whilst holding the temporary appointment of Officer Commanding No. 9 Australian General Hospital. Dated 3rd October, 1918.

Captain C. N. Atkins to be granted the temporary rank and (part-time) pay of Major whilst employed as Officer Commanding No. 25 Australian Auxiliary Hospital. Dated 3rd October, 1918.

THE JAMES BROWN MEMORIAL TRUST.

The report of the James Brown Memorial Trust for the two years ending June 30, 1918, has been issued in one pamphlet. The report itself contains little actual information concerning the activities of the two institutions administered by the Trust. The medical details are summarized in the report of the medical officer of each institution.

Kalyra Sanatorium.

During the two years 206 patients were admitted to the Kalyra Sanatorium for the treatment of pulmonary tuberculosis. On July 1, 1916, there were 44 patients under treatment, and on July 1, 1918, there were 45. It thus appears that in the case of 205 patients the treatment was completed. The disease was arrested in 46. In a further 90 the patient's condition was improved, while in 60 it was unimproved. Four patients left against advice and two patients died. Of the 201 patients discharged, 78 are classified as having the stage of their disease in Class I., 77 in Class II. and 46 in Class III. By Class I. is meant a slight involvement of not more than one lobe or two half lobes; by Class II. is meant a slight involvement of lung tissue, not exceeding the volume of two lobes, or a severe lesion involving the volume of one lobe; by Class III. is meant all cases with more extensive or severer lesions than are included in Class II. Of the patients in Class I., 43 were discharged with their disease arrested. Only three of the patients in Class II. had their disease arrested, while 31 of the 46 in Class III. were discharged unimproved. The average length of residence of the 78 patients in Class I. was 137.7 days, while the average residence of all the patients was 151.4 days. The number of patients who gained weight was 139, while 48 lost it. One patient gained 15½ kilos. The average gain in weight was 4.3 kilos. The medical officer summarizes the results of treatment at the time of discharge of all patients who had been in the Sanatorium during the fourteen years of its existence. It is unfortunate that this summary merely represents the immediate results of a limited course of treatment. During the fourteen years 1,492 patients had been discharged. It should not be very difficult to ascertain how many of these patients have died, how many have become invalided, and how many are enjoying restored health. No doubt a few of the patients will have disappeared. The results of the treatment, however, could be gauged by having having regard to those whose subsequent histories have been traced. The table should show the stage of disease at the time of admission. The information given in the report is limited to the bald assertion that the disease was arrested at the time of discharge in 350 out of a total of 1,492. The medical officer is not justified from these figures in stating that one out of every four patients admitted is cured.

During the two years under review the oldest person admitted was 65 years of age and the youngest 12. The majority were between the ages of 21 and 35. Cough was the first symptom noted in 69 patients. In 13 the occurrence of an hæmoptysis led the patient to seek medical advice. In eleven patients the first symptom noted was weakness, while an attack of pleurisy revealed the tubercular infection in nine. The previous occupations of the patients were indoors in 135, underground in 7 and out-of-doors in 48. Little exact information was obtained concerning the source of infection. The medical officer attaches great importance to the institution of sanatorium treatment at a very early stage. He notes that three months elapsed between the date of apparent onset of the disease and the date of admission to the Sanatorium in 33 patients, six months in 34 patients, nine months in 9 patients, one year in 19 patients and two years or more in 21 patients.

In a general summary the medical officer calls attention to the increase during the past four years in the number of notifications of cases of pulmonary tuberculosis in South Australia. The annual average during the fourteen years ending 1913 was 103 per 100,000 of population, the annual average for the four years 1914 to 1918 was 117 and the number notified in 1917 was 140. Similarly, the deaths per 100,000 of population from pulmonary tuberculosis have increased from 67 in 1914 to 84 in 1917. He pleads for more adequate measures of prevention. The total maintenance expenditure for the year ending June 30, 1917, was £3,034, and for the year ending June 30, 1918, was £3,378. The patients contributed £607 in the former year and £885 in the latter year.

Estcourt House.

Estcourt House is a home for aged blind people and for crippled children. The medical officer reports that five old people died during the two years. Their ages in all cases were over 80 years. One boy, whose age is not given, died of pseudo-hypertrophic paralysis, while a girl died of *morbus coxæ*. Nine children were infected with varicella and nine were infected with ringworm. In other respects the health of the inmates is said to have remained satisfactory.

THE HEALTH OF PORT ADELAIDE.

The Mayor of the City of Port Adelaide, in accordance with custom, has issued a neat little booklet embracing his annual report for the year 1917-1918. Among the appendices to this report is that of the Medical Officer of Health, Dr. Percival Bollen, from which the following information is culled.

Vital Statistics.

The birth and death rates given in the report are calculated on the estimated population of the city on January 1, 1918, of 28,534. During the twelve months there were registered 780 births and 230 deaths. To the latter figure must be added 62, representing the number of deaths of residents of the city which took place in hospitals situated elsewhere. The number of deaths of infants under one year of age was 35. The birth-rate for the year is consequently 28.03 per 1,000 of population, the death-rate 10.40 per 1,000 of population and the infantile mortality rate 47 per 1,000 births.

Infective Diseases.

The most prevalent of the infective diseases was scarlatina. There were 125 cases during the year, of which 61 occurred in the quarter ending September 30, 1918. The total number of cases of diphtheria notified was 99, of which 42 took place in the June to September quarter. The other

infective diseases notified were pertussis 44 cases, morbilli 39, pulmonary tuberculosis 38, erysipelas 20, enteric fever 17 and cerebro-spinal meningitis 2. Dr. Bollen points out that there has been a slight increase in the number of notifications of pulmonary tuberculosis as compared with the preceding year.

The total number of deaths from pulmonary tuberculosis was 23, from diphtheria was seven, and from enteric fever, tubercular meningitis, cerebro-spinal meningitis and scarlet fever was one each. Six of these deaths took place at the Adelaide and the Children's Hospitals.

Sanitation.

In the eastern part of the city the deep drainage system is being installed, but in the Le Fevre's Peninsula the deficiency of the water supply interrupted the employment of this system, save for two State schools and the Government yards. Dr. Bollen again calls attention to the highly unsatisfactory nature of the surface drainage, and demands that it shall be brought up to modern standards. The defect in the water supply in part of the city is ascribed to the difficulty experienced in procuring the necessary pipes.

The Chief Inspector and his assistant visited 3,490 premises and issued 780 notices requiring alterations. In 720 instances the requirements of the Department were complied with.

City Nurse.

The City Nurse was in requisition in connexion with 374 local patients and 14 imported patients. In addition, she paid 1,453 visits to houses in which an infectious disease was present and 38 to schools. As a result of these visits, 238 swabs and nine specimens of sputum were submitted for examination. Under the Nurse's supervision 216 rooms were disinfected.

Dr. P. J. A. L. L. Quessy (B.M.A.) has been appointed Medical Officer to the Medical Branch of the Education Department of New South Wales.

Public Health.

NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales, during the three weeks ending January 4, 1919:—

	Metropolitan Combined District. Cs.	Dths.	Hunter River Combined District. Cs.	Dths.	Rest of State. Cs.	Dths.	Total. Cs.	Dths.
Enteric Fever	30	2	3	0	20	1	53	3
Scarlatina	19	0	0	0	17	0	36	0
Diphtheria	67	2	3	0	78	1	148	3
*Pul. Tuberculosis	9	28	4	1	4	2	17	31
C'bro-Sp'l. Menin.	2	1	0	0	0	0	2	1
Poliomyelitis	0	0	0	0	3	0	3	0

* Notifiable only in the Metropolitan and Hunter River Districts, and, since October 2, 1916, in the Blue Mountain Shire and Katoomba Municipality.

VICTORIA.

The following notifications have been received by the Department of Public Health, Victoria, during the fortnight ending January 5, 1919:—

	Metropolitan. Cs.	Dths.	Rest of State. Cs.	Dths.	Total Cs.	Dths.
Enteric Fever	4	1	16	0	20	1
Scarlatina	29	2	31	0	60	2
Diphtheria	86	4	110	1	196	5
Pulmonary Tuberculosis	17	12	24	3	41	15
C'bro-Spinal Meningitis	2	—	0	—	2	—
Poliomyelitis	0	—	1	—	1	—
Puerperal Fever	1	—	2	—	3	—

QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the three weeks ending January 4, 1919:—

Diseases.	No. of Cases
Enteric Fever	38
Scarlatina	11
Diphtheria	78
Pulmonary Tuberculosis	25
Erysipelas	9
Anchylostomiasis	2
Puerperal Fever	2
Cerebro-Spinal Meningitis	1
Poliomyelitis	8

SOUTH AUSTRALIA.

The following notifications have been received by the Central Board of Health, Adelaide, during the week ending December 21, 1918:—

	Adelaide. Cs.	Dths.	Rest of State. Cs.	Dths.	Total. Cs.	Dths.
Enteric Fever	0	0	1	0	1	0
Scarlatina	1	0	10	0	11	0
Diphtheria	4	0	15	0	19	0
Pulmonary Tuberculosis	0	1	7	4	7	5
Erysipelas	0	0	2	0	2	0
Morbilli	0	0	14	1	14	1
Pertussis	3	0	30	0	33	0
C'bro-Spinal Meningitis	0	0	1	0	1	0

WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health, Western Australia, during the fortnight ending December 28, 1918:—

	Metropolitan. Cases.	Rest of State. Cases.	Totals. Cases.
Enteric Fever	4	4	8
Scarlatina	7	16	23
Diphtheria	19	16	35
Pulmonary Tuberculosis	8	9	17
Erysipelas	1	1	2
Cerebro-Spinal Meningitis	1	0	1
Malaria	1	0	1
Low Fever	0	1	0
Beri-beri	0	1	1
Pneumonia	0	1	1

TASMANIA.

The following notifications have been received by the Department of Public Health, Tasmania, during the fortnight ending January 4, 1919:—

Diseases.	Hobart. Cases.	Launceston. Cases.	Country. Cases.	Whole State. Cases.
Enteric Fever	1	0	0	1
Scarlatina	1	0	1	2
Diphtheria	2	4	9	15
Pulmonary Tuberculosis	2	0	4	6
C'bro-Spinal Meningitis	0	0	1	1

NEW ZEALAND.

The following notifications have been received by the Chief Health Officer, Department of Public Health, Hospitals and Charitable Aid, New Zealand, for the four weeks ending December 9, 1918:—

Diseases.	No. of Cases.
Scarlatina	53
Diphtheria	102
Enteric Fever	15
Pulmonary Tuberculosis	45
Cerebro-Spinal Meningitis	42
Puerperal Fever	3
Erysipelas	3
Ophthalmia Neonatorum	2
Trachoma	1
Influenza	3423

The distribution of influenza is as follows:—

Health District.	Week Ending Nov. 18. Cases.	Week Ending Nov. 25. Cases.	Week Ending Dec. 2. Cases.	Week Ending Dec. 9. Cases.	Total. Cases.
Wellington ..	219 ..	220 ..	376 ..	342 ..	1,157
Canterbury ..	258 ..	140 ..	255 ..	445 ..	1,098
Otago	120 ..	358 ..	398 ..	292 ..	1,168
Total ..	597 ..	718 ..	1,029 ..	1,079 ..	3,423

Through an oversight, the date on which assent was given to the *Venereal Diseases Act* of New South Wales was not given in our issue of last week (page 36). The date was December 19, 1918.

Obituary.

JOHN CLARENCE WELLS.

John Clarence Wells, who died of wounds in France in August, 1918, was the youngest son of Mr. Clement Wells, of South Terrace, Adelaide. He was born on March 24, 1889. He was educated at St. Peter's College, Adelaide, and studied medicine at the Adelaide University. He took his degrees of M.B., B.S., in 1912. After graduating, he acted as *locum tenens* to several city and country practitioners. He planned to visit Europe for the purpose of post-graduate study. In August, 1914, he was working at Gawler, but when war broke out he applied for a commission in the Australian Imperial Force. After having fulfilled his obligations to the late Dr. Dawes, of Gawler, he went into camp, and was gazetted on January 1, 1915, as an Honorary Captain in the Australian Army Medical Corps Reserve. A fortnight later he was transferred to the Australian Imperial Force, Army Medical Corps. He served at Torren's Island, Oaklands and Morphettville, and on February 4, 1915, he was sent forward in a troopship. His destination was Egypt, where he was appointed to the staff of the 1st Australian Hospital, at Heliopolis. When it was decided to send Australian troops to Gallipoli, Captain Wells volunteered for service, and was appointed Medical Officer of the 1st Australian Light Horse. He remained on the Peninsula until the evacuation, nine months later. During this time he had many narrow escapes, and was once wounded. On its return to Egypt the regiment was ordered into the desert. John Clarence Wells accompanied it, and performed excellent and strenuous service and suffered many hardships for nearly two years. He was present at several heavy engagements, including the famous attacks on Raffa and Romani. At the latter he was in the saddle for five days and five nights, with little food and less water. He was promoted to the rank of Major on January 29, 1917.

In July of 1917 he was granted leave to return to Australia, as his mother had undergone a serious operation and there was little hope of her recovery. He served as Medical Officer on the voyage home, and arrived on August 24, 1917. The conditions of service had left their mark on John Clarence Wells, and, in addition, he had to undergo a nasal operation. Notwithstanding all this, he recognized that he had been granted leave on account of the condition of his mother's health and that it was his honourable duty to return to the front. After about four and a half months in Adelaide, during which time he was on military duty at the No. 16 Australian General Hospital at Mitcham, he left on a troopship for France. He was then appointed Regimental Medical Officer to the 30th Infantry Battalion. He had a special inclination for work in the field, and was never happier than when in the thick of the fight. He was fearless, brave and untiring in his efforts to do useful work. Men who were closely associated with him declare that he was not only a fine medical officer, but a gallant soldier under fire. During a big attack east of Villers-Brettoneux, on August 7, 1918, and the following days, he worked strenuously at his post and on August 9 he was wounded in the head. He died at the 61st Casualty Clearing Station on the following day without regaining consciousness. His utter disregard of danger and his high ideals rendered his position as a medical officer as dangerous as that of the attacking troops.

Major-General Talbot Hobbs, his Divisional Commander, wrote of him:—

> Major Wells's work throughout his service was marked by courage, self-sacrifice and devotion to duty, and he always carried out any work assigned to him, even under the most difficult positions, in an exceptionally praiseworthy manner. He was popular with the men and greatly esteemed by all who knew him. It will be difficult to replace him. The valuable service he has rendered to the Empire and the cause of humanity is the only consolation for so great a loss.

He was buried at Urquacourt.

HENRY GUY SEYMOUR WARREN.

In our issue of December 14, 1918, we recorded with great regret the death of Henry Guy Seymour Warren. He was the son of a doctor who practised in a western town of New South Wales. His preliminary education was conducted at the King's School, Parramatta. After he left school he went to England to study medicine, was enrolled as a student at St. Bartholomew's Hospital, and in the year 1880 obtained the double qualification of the Royal College of Surgeons and the Royal College of Physicians. He then returned to New South Wales, and in 1881 started practice in Dubbo. He made a great success of this practice, and became justly popular among the residents. About ten years later he again visited England, where he spent nearly four years studying ophthalmology at Moorfields and at the Royal Westminster Ophthalmic Hospital. He occupied positions in the several clinics at these hospitals, and had the advantage of personal collaboration with Lang, Frost, Partridge and Morton. After this thorough preparation for special work he returned to New South Wales and began an ophthalmic practice in Macquarie Street, Sydney. It was not long before he had a large practice, but, unfortunately, his health, which, prior to this time had been far from satisfactory, became considerably worse. He was prevented from taking an active part in medical matters outside his immediate practice, with the result that the younger members of the medical profession in Sydney rarely came in contact with him.

In all his work Henry Guy Seymour Warren was thorough, and if he advised a certain course it was only after giving his full consideration to the subject. His judgement was sound, and when he erred it was on the side of caution. He was a man who considered himself less than his patients, and much of his work was done while he was suffering acutely. His many patients had every reason to appreciate his skill and kindness. By his death the medical profession has lost one of the best types of its members and his patients have lost a kind friend.

He held two public appointments. He was Ophthalmic Surgeon to the Industrial Blind Institute and, up to a few years ago, he was Assistant Ophthalmic Surgeon to the Royal Prince Alfred Hospital.

Always fond of horses, he made riding one of his recreations. His indifferent health, however, compelled him to forego this and another hobby, golf, during recent years. While in practice at Dubbo he married the youngest daughter of Mr. Cuswell, P.M. There were two children of the marriage, but neither survived childhood.

Correspondence.

THE DETERMINATION OF SEX.

Sir,—The *British Medical Journal* of September 21, 1918 (page 326), refers to investigations by Dr. Siegel in connexion with this subject, and it appears that the observations made by himself and two other investigators are of value as regards the period of fertility in relation to menstruation, but give no conclusive evidence as to determination of sex. I was surprised to find that one of the residents of this district, who kept a number of cows, was always able to control the sex of the offspring, and, during the past few years I have confirmed these observations in regard to cattle.

The method is simple, *viz.*: If impregnation follows the first time of "bulling" after parturition the calf is a male, if on the second occasion of "bulling" the calf is a female.

The odd times result in male offspring and the even times in female offspring. The reason given for this occurrence by medical observers is that sex is entirely controlled by the female. It is, therefore, merely necessary to note the first occurrence of menstruation after parturition and the sex can be controlled. Observers have noted that one ovary is only capable of producing male offspring and the other one only female offspring. Ovulation occurs in each ovary in alternating order.

Yours, etc.,

R. A. PARKER.

"Cottesbrooke," Healesville,
Victoria, January 9, 1919.

Proceedings of the Australian Medical Boards.

NEW SOUTH WALES.

The undermentioned has been registered under the provisions of the *Medical Act, 1912 and 1915*, as a duly qualified medical practitioner:—

Banks-Smith, Roland Gordon, M.B., Mast. Surg., 1918, Univ. Sydney.

Dr. T. Storie Dixson has been elected President of the Medical Board of New South Wales, in place of the late Sir Philip Sydney Jones.

Books Received.

SURGERY AT A CASUALTY CLEARING STATION, by Cuthbert Wallace, C.M.G., F.R.C.S., and John Fraser, M.C., F.R.C.S.E.; 1918. London: A. & C. Black, Limited; Crown 8vo., pp. 320. Price, 10s. 6d. net.

PAPERS ON PSYCHO-ANALYSIS, by Ernest Jones, M.D., M.R.C.P.; Revised and Enlarged Edition; 1918. London: Baillière, Tindall & Cox; Royal 8vo., pp. 715. Price, 21s. net.

ADVANCED SUGGESTION (NEUROINDUCTION), by Hadyn Brown, L.R.C.P., etc.; 1918. London: Baillière, Tindall & Cox; Crown 8vo., pp. 342. Price, 6s. net.

LES BORGNES DE LA GUERRE. PROTHÈSE CHIRURGICALE ET PLASTIQUE, par Dr. G. Valois; avec 25 planches originales hors text s par G. Reynard, et figures dans le texte; 1918. Paris: Masson et Cie; Royal 8vo., pp. 224. Price, 12 francs.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xv.

Walter and Eliza Hall Institute of Research in Pathology and Medicine, Melbourne: Director and First Assistant.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Friendly Society Lodges, Institutes, Medical Dispensaries and other Contract Practice. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Aramac Hospital. Australian Natives' Association. Brisbane United Friendly Society Institute. Cloncurry Hospital.
TASMANIA. (Hon. Sec., Macquarie Street, Hobart.)	Medical Officers in all State-aided Hospitals in Tasmania.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIA. (Hon. Sec., Health Department, Perth.)	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United Friendly Societies' Dispensary. Canterbury United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Friendly Society Lodges at Lithgow. Friendly Society Lodges at Parramatta, Auburn and Lidcombe. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. New South Wales Ambulance and Transport Brigade. Newcastle Collieries—Killingworth, Seaham Nos. 1 and 2, West Wallsend. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

Jan. 21.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
Jan. 24.—Queensland Branch, B.M.A., Council.
Jan. 24.—Central Southern Medical Association (Annual), Goulburn, N.S.W.
Jan. 28.—Tas. Branch, B.M.A., Annual Meeting.
Jan. 29.—Vic. Branch, B.M.A., Council.
Jan. 29.—Northern District Medical Association (Annual), Tamworth, N.S.W.
Feb. 4.—Tas. Branch, B.M.A., Council.
Feb. 5.—Vic. Branch, B.M.A.
Feb. 5.—Federal Committee of the B.M.A. in Australia.
Feb. 7.—Queensland Branch, B.M.A.
Feb. 11.—N.S.W. Branch, B.M.A., Ethics Committee.
Feb. 13.—Vic. Branch, B.M.A., Council.
Feb. 14.—Queensland Branch, B.M.A., Council.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.